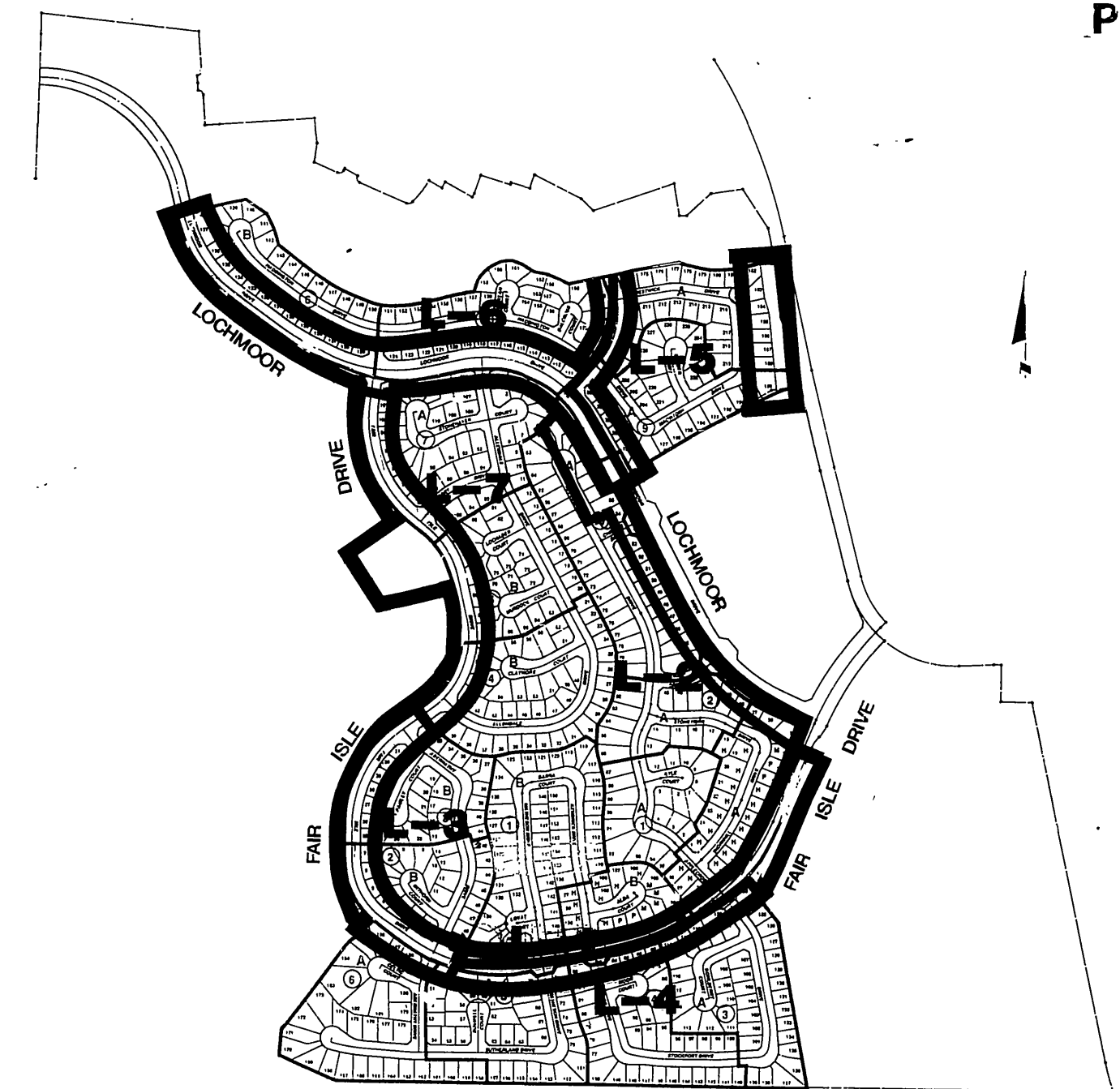


THE LUSK CO.  
LUSK HIGHLANDER  
TRACT # 22408  
RIVERSIDE, CA.  
INCREMENTS 1, 2 & 3

RIVERSIDE OFFICE  
THE LUSK CO.  
3741 MERCED DR. SUITE #330  
RIVERSIDE CA. 92503  
CONTACT: DON PUTNAM

ORANGE COUNTY OFFICE  
THE LUSK CO.  
17550 GILLETTE AVE.  
IRVINE CA. 92713  
CONTACT: ALEX ESTRADA

PROJECT PLAN  
N.T.S.



GENERAL NOTES

LEGEND

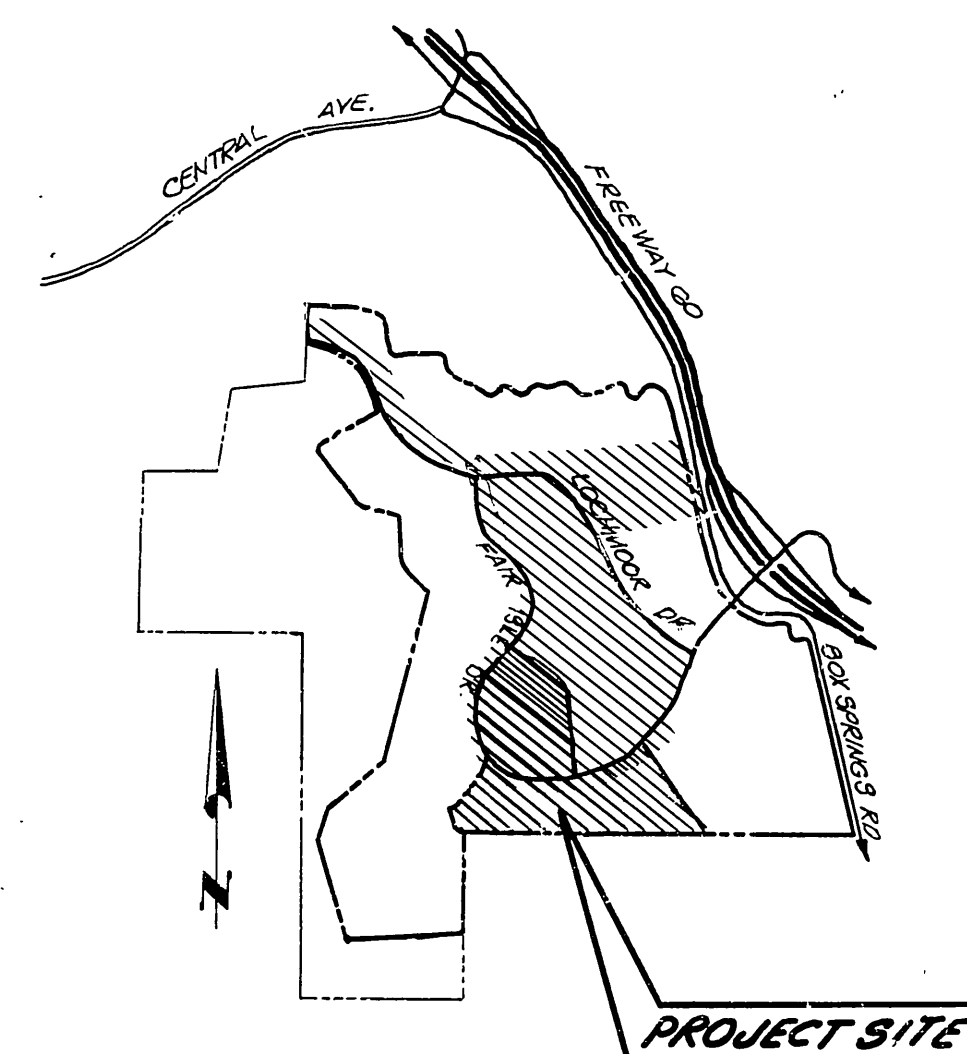
APPROVALS

TITLE	SIGNATURE	DATE	SIGNATURE	DATE
Park & Recreation	<i>[Signature]</i>	1-24-91		

REVISIONS

NO.	DATE	REVISIONS BY:	APPROVAL	DATE	NO.	DATE	REVISIONS BY:	APPROVAL	DATE

VICINITY PLAN  
N.T.S.



SHEET INDEX

DESCRIPTION	SHEET NO.	DESCRIPTION	SHEET NO.
TITLE SHEET	T-1		
IRRIGATION PLANS	L-1-L-7		
IRRIGATION NOTES	L-8		
IRRIGATION DETAILS	L-9		
IRRIGATION SPECS	L-10,11		
PLANTING PLANS	L-12,18		
PLANTING DETAILS	L-19		
PLANTING SPECS	L-20		
PLANTING NOTES	L-21		

**RA** Randolph  
Hlubik  
Associates, Inc.  
Landscape Architecture • Planning

Old City Hall - Third Floor • 3612 Seventh St. • Riverside, CA 92501 • (714) 781-1930

CONSULTANTS



SCALITER IRRIGATION  
IRRIGATION DESIGN-WATER MANAGEMENT  
902 AARON DRIVE  
REDLANDS, CALIFORNIA 92374  
(714) 794-5811 (714) 794-5873

CITY OF RIVERSIDE  
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER	3/6/91	Wes
PARK DEPARTMENT	1/24/91	Wes
TRAFFIC DIVISION		
CHIEF P. W. ENGINEER	3/13/91	Wes
PLANNING	2-20-91	Wes

APPROVED BY	DATE	BY
PUBLIC WORKS DIRECTOR	3/14/91	Wes

THE LUSK CO. LUSK HIGHLANDER TRACT #22408 INCREMENTS 1, 2 & 3	ACCOUNT NO. 7-1 R-3073-L SHEET 1 OF 21 (PC 926)
--	---

HORIZ. SCALE: 1" = VERT. SCALE: 1" =

INDEXED 5-3-91

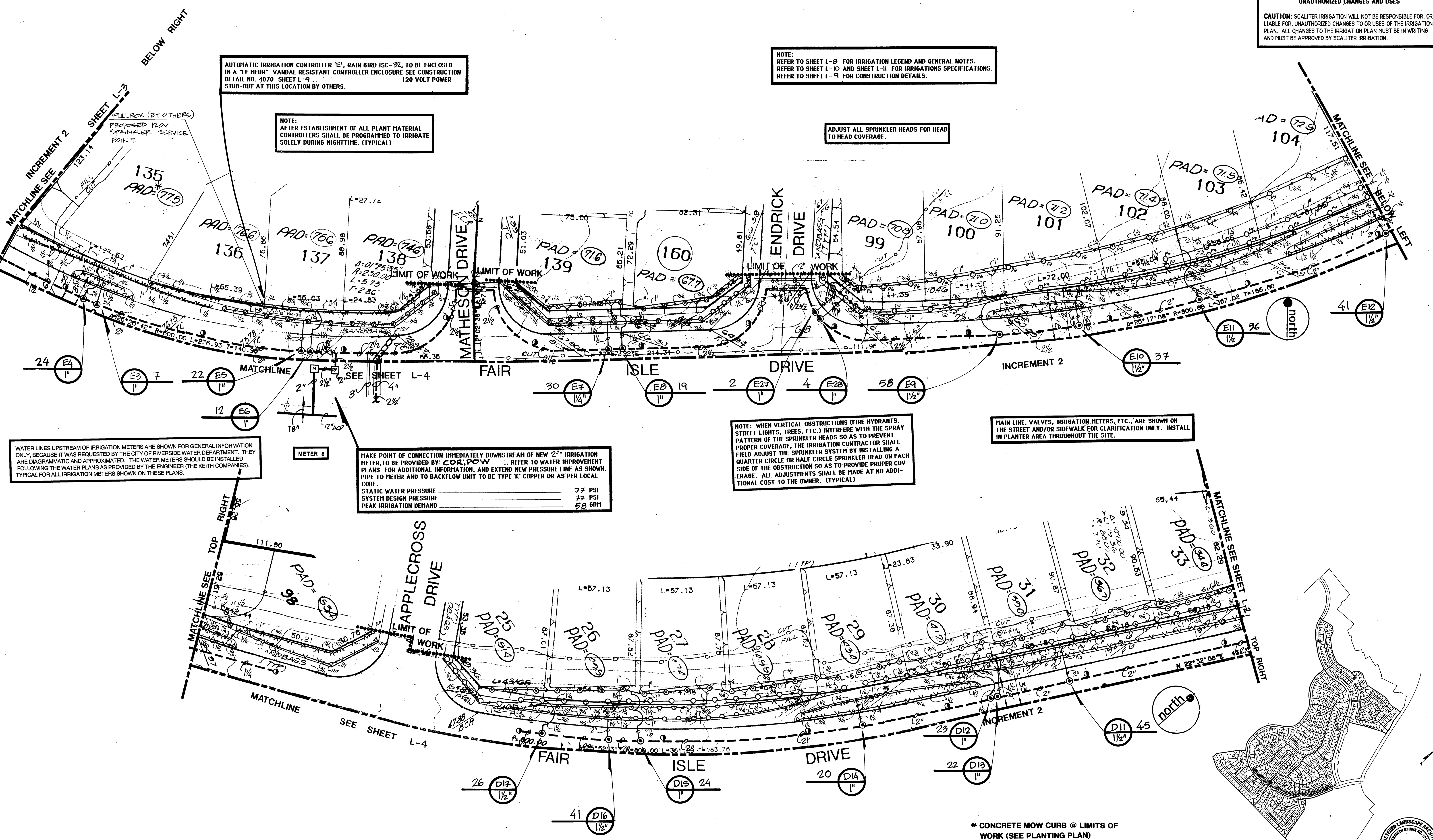
UNAUTHORIZED CHANGES AND USES  
CAUTION: SCALITER IRRIGATION WILL NOT BE RESPONSIBLE FOR, OR  
LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THE IRRIGATION  
PLAN. ALL CHANGES TO THE IRRIGATION PLAN MUST BE IN WRITING  
AND MUST BE APPROVED BY SCALITER IRRIGATION.

NOTE:  
REFER TO SHEET L-8 FOR IRRIGATION LEGEND AND GENERAL NOTES.  
REFER TO SHEET L-10 AND SHEET L-11 FOR IRRIGATION SPECIFICATIONS.  
REFER TO SHEET L-9 FOR CONSTRUCTION DETAILS.

AUTOMATIC IRRIGATION CONTROLLER 'E', RAIN BIRD ISC-32, TO BE ENCLOSED  
IN A "LE MEUR" VANDAL RESISTANT CONTROLLER ENCLOSURE SEE CONSTRUCTION  
DETAIL NO. 4070 SHEET L-9 120 VOLT POWER  
STUB-OUT AT THIS LOCATION BY OTHERS.

NOTE:  
AFTER ESTABLISHMENT OF ALL PLANT MATERIAL  
CONTROLLERS SHALL BE PROGRAMMED TO IRRIGATE  
SOLELY DURING NIGHTTIME. (TYPICAL)

ADJUST ALL SPRINKLER HEADS FOR HEAD  
TO HEAD COVERAGE.



WATER LINES UPSTREAM OF IRRIGATION METERS ARE SHOWN FOR GENERAL INFORMATION  
ONLY, BECAUSE IT WAS REQUESTED BY THE CITY OF RIVERSIDE WATER DEPARTMENT. THEY  
ARE DIAGNOSTIC AND APPROXIMATED. THE WATER METERS SHOULD BE INSTALLED  
FOLLOWING THE WATER PLANS AS PROVIDED BY THE ENGINEER (THE KEITH COMPANIES).  
TYPICAL FOR ALL IRRIGATION METERS SHOWN ON THESE PLANS.

MAKE POINT OF CONNECTION IMMEDIATELY DOWNSTREAM OF NEW 2" IRRIGATION  
METER, TO BE PROVIDED BY CORPOV. REFER TO WATER IMPROVEMENT  
PLANS FOR ADDITIONAL INFORMATION, AND EXTEND NEW PRESSURE LINE AS SHOWN.  
PIPE TO METER AND TO BACKFLOW UNIT TO BE TYPE 'K' COPPER OR AS PER LOCAL  
CODE.  
STATIC WATER PRESSURE 77 PSI  
SYSTEM DESIGN PRESSURE 77 PSI  
PEAK IRRIGATION DEMAND 58 GPM

NOTE: WHEN VERTICAL OBSTRUCTIONS (FIRE HYDRANTS,  
STREET LIGHTS, TREES, ETC.) INTERFERE WITH THE SPRAY  
PATTERN OF THE SPRINKLER HEADS SO AS TO PREVENT  
PROPER COVERAGE, THE IRRIGATION CONTRACTOR SHALL  
FIELD ADJUST THE SPRINKLER SYSTEM BY INSTALLING A  
QUARTER CIRCLE OR HALF CIRCLE SPRINKLER HEAD ON EACH  
SIDE OF THE OBSTRUCTION SO AS TO PROVIDE PROPER COV-  
ERAGE. ALL ADJUSTMENTS SHALL BE MADE AT NO ADDI-  
TIONAL COST TO THE OWNER. (TYPICAL)

MAIN LINE, VALVES, IRRIGATION METERS, ETC., ARE SHOWN ON  
THE STREET AND/OR SIDEWALK FOR CLARIFICATION ONLY. INSTALL  
IN PLANTER AREA THROUGHOUT THE SITE.

\* CONCRETE MOW CURB @ LIMITS OF  
WORK (SEE PLANTING PLAN)

SCALITER IRRIGATION  
IRRIGATION DESIGN-WATER MANAGEMENT  
902 AARON DRIVE  
REDLANDS, CALIFORNIA 92374  
(714) 794-5811 (714) 794-5873

Randolph  
Hlubik  
Associates, Inc.  
Landscape Architecture • Planning  
Old City Hall • Third Floor  
3612 Seventh Street • Riverside, California 92501  
License #1512 (714) 781-1930

PUBLIC UTILITIES ELECTRIC	
APPROVED	DATE 2/22/91
CITY OF RIVERSIDE	
PUBLIC WORKS DEPARTMENT	
APPROVED BY	DATE
PRINCIPAL ENGINEER	5/8/91
PARK DEPARTMENT	2/2/91
TRAFFIC DIVISION	
CHIEF P.W. ENGINEER	
PLANNING	3/12/91
DESIGNED BY	DRAWN BY
CHECKED BY	

IRRIGATION PLAN	
THE LUSK CO. LUSK HIGHLANDER TRACT #22408 INCREMENT 1	
RHA #89124	
ACCOUNT NO. L-1	
R-3073-L	
SHEET 2 OF 21	
HORIZ. SCALE: 1" = 30' VERT. SCALE: 1" = 10'	
INDEXED 5-3-91	









# UNAUTHORIZED CHANGES AND USES

CAUTION: SCALITER IRRIGATION WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THE IRRIGATION PLAN. ALL CHANGES TO THE IRRIGATION PLAN MUST BE IN WRITING AND MUST BE APPROVED BY SCALITER IRRIGATION.

WATER LINES UPSTREAM OF IRRIGATION METERS ARE SHOWN FOR GENERAL INFORMATION ONLY, BECAUSE IT WAS REQUESTED BY THE CITY OF RIVERSIDE WATER DEPARTMENT. THEY ARE DIAGRAMMATIC AND APPROXIMATED. THE WATER METERS SHOULD BE INSTALLED FOLLOWING THE WATER PLANS AS PROVIDED BY THE ENGINEER (THE KEITH COMPANIES). TYPICAL FOR ALL IRRIGATION METERS SHOWN ON THESE PLANS.

MAKE POINT OF CONNECTION IMMEDIATELY DOWNSTREAM OF NEW 2" IRRIGATION METER TO BE PROVIDED BY COR. POW. REFER TO WATER IMPROVEMENT PLANS FOR ADDITIONAL INFORMATION, AND EXTEND NEW PRESSURE LINE AS SHOWN. PIPE TO METER AND TO BACKFLOW UNIT TO BE TYPE 'K' COPPER OR AS PER LOCAL CODE.

STATIC WATER PRESSURE 57 PSI  
SYSTEM DESIGN PRESSURE 57 PSI  
PEAK IRRIGATION DEMAND 45 GPM

ADJUST ALL SPRINKLER HEADS FOR HEAD TO HEAD COVERAGE.

NOTE:  
REFER TO SHEET L-8 FOR IRRIGATION LEGEND AND GENERAL NOTES.  
REFER TO SHEET L-10 AND SHEET L-11 FOR IRRIGATION SPECIFICATIONS.  
REFER TO SHEET L-9 FOR CONSTRUCTION DETAILS.

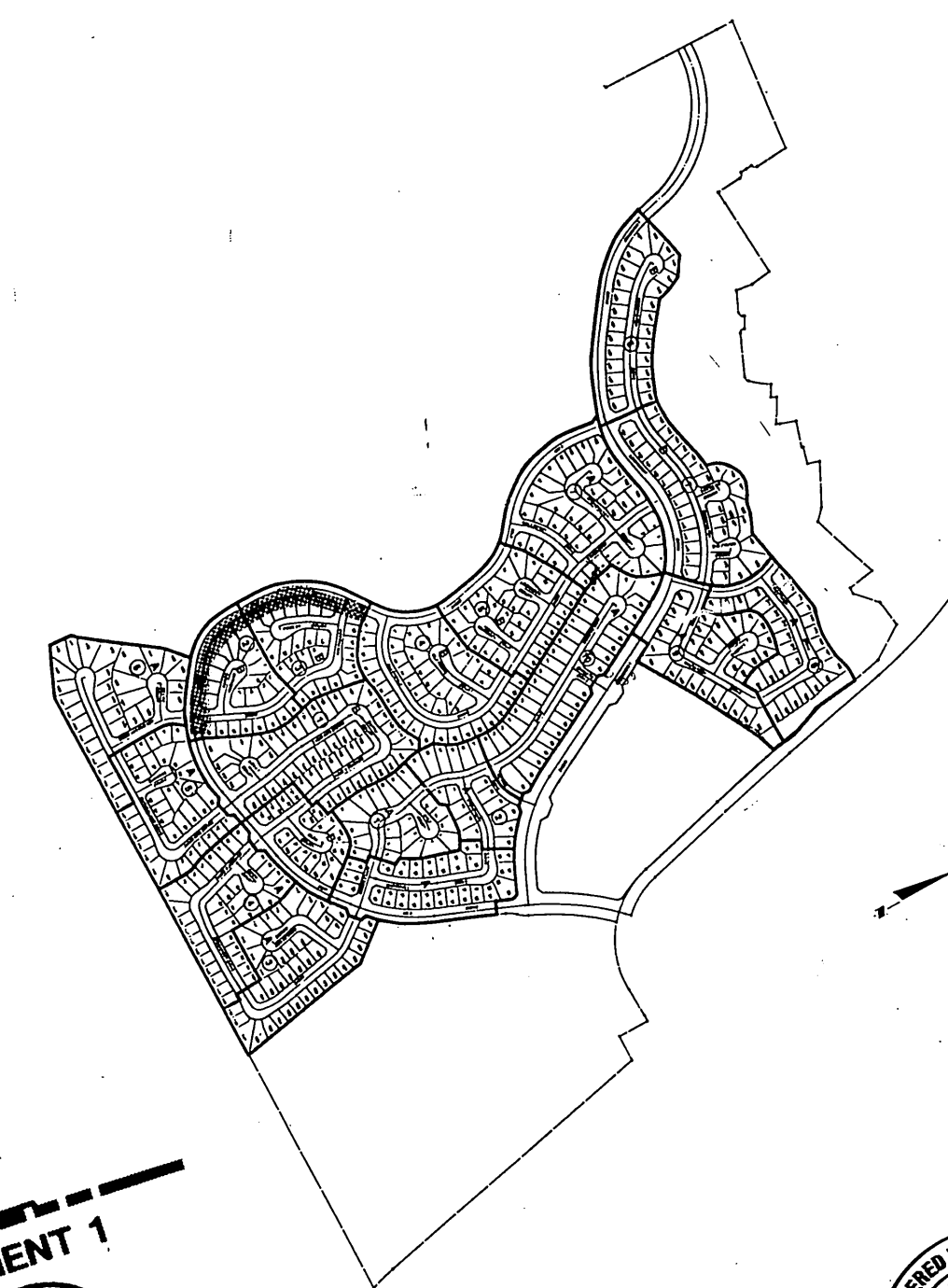
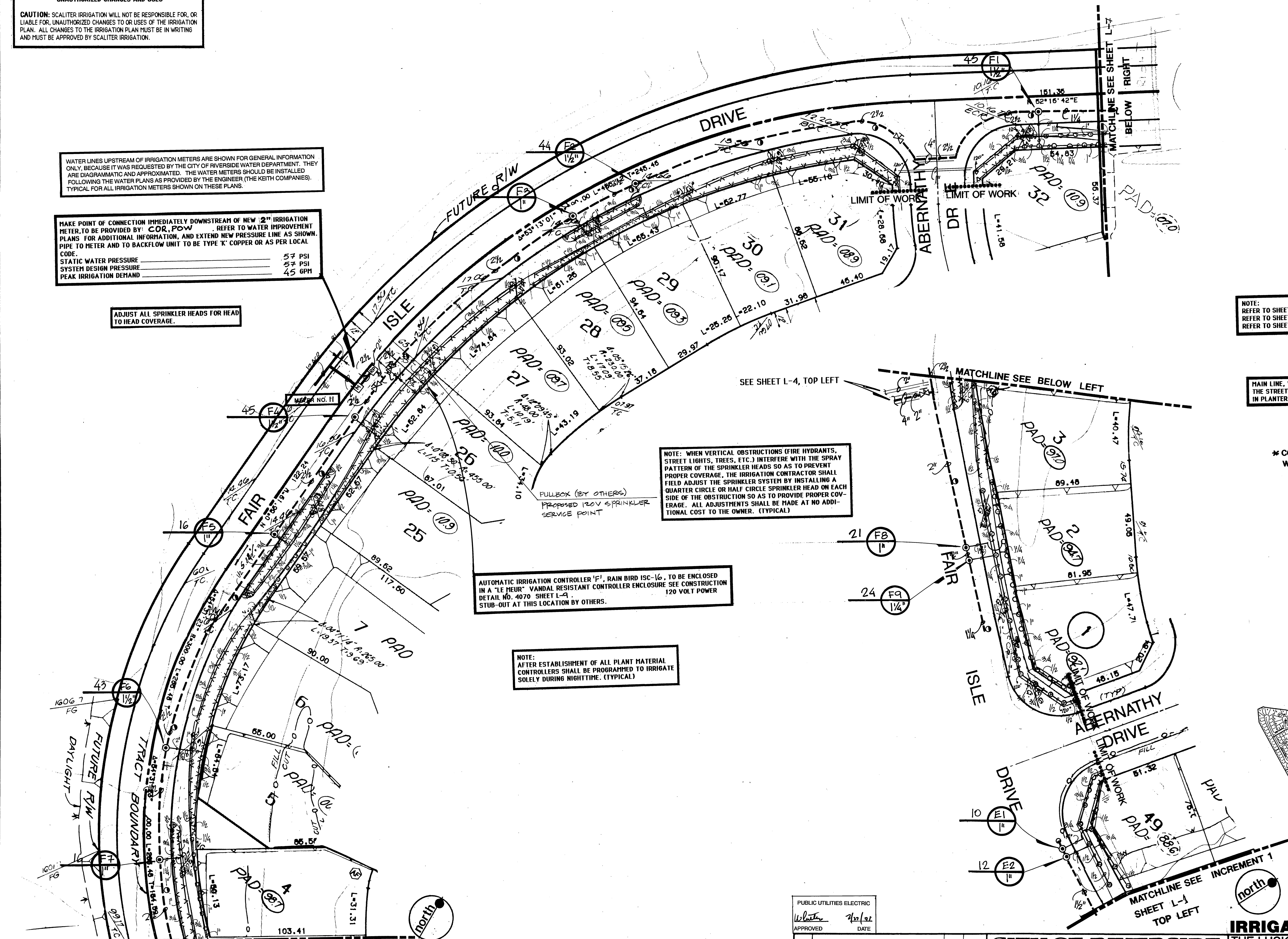
MAIN LINE, VALVES, IRRIGATION METERS, ETC., ARE SHOWN ON THE STREET AND/OR SIDEWALK FOR CLARIFICATION ONLY. INSTALL IN PLANTER AREA THROUGHOUT THE SITE.

\* CONCRETE MOW CURB @ LIMITS OF WORK (SEE PLANTING PLAN)

NOTE: WHEN VERTICAL OBSTRUCTIONS (FIRE HYDRANTS, STREET LIGHTS, TREES, ETC.) INTERFERE WITH THE SPRAY PATTERN OF THE SPRINKLER HEADS SO AS TO PREVENT PROPER COVERAGE, THE IRRIGATION CONTRACTOR SHALL FIELD ADJUST THE SPRINKLER SYSTEM BY INSTALLING A QUARTER CIRCLE OR HALF CIRCLE SPRINKLER HEAD ON EACH SIDE OF THE OBSTRUCTION SO AS TO PROVIDE PROPER COVERAGE. ALL ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER. (TYPICAL)

AUTOMATIC IRRIGATION CONTROLLER 'F', RAIN BIRD ISC-16, TO BE ENCLOSED IN A "LE MEUR" VANDAL RESISTANT CONTROLLER ENCLOSURE SEE CONSTRUCTION DETAIL NO. 4070 SHEET L-4. 120 VOLT POWER STUB-OUT AT THIS LOCATION BY OTHERS.

NOTE:  
AFTER ESTABLISHMENT OF ALL PLANT MATERIAL CONTROLLERS SHALL BE PROGRAMMED TO IRRIGATE SOLELY DURING NIGHTTIME. (TYPICAL)



PUBLIC UTILITIES ELECTRIC  
APPROVED DATE 7/27/91

CITY OF RIVERSIDE  
PUBLIC WORKS DEPARTMENT

IRRIGATION PLAN  
THE LUSK CO.  
LUSK HIGHLANDER  
TRACT #22408  
INCREMENT 2

RHA #89124

ACCOUNT NO.

L-3

R-3073-L

SHEET 4 OF 21

(PC-2926)

HORIZ. SCALE: 1" = 30' VERT. SCALE: 1" = 10'

INDEXED 5-3-91

SCALITER IRRIGATION  
IRRIGATION DESIGN-WATER MANAGEMENT  
902 AARON DRIVE  
REDLANDS, CALIFORNIA 92374  
(714) 794-5811 (714) 794-5873

Randolph  
Hlubik  
Associates, Inc.  
Landscape Architecture • Planning

Old City Hall • Third Floor  
3612 Seventh Street • Riverside, California 92501  
License #1512 (714) 781-1930

MARK	REVISIONS	APPR.	DATE
DESIGNED BY	DS	DRAWN BY	DS
CHECKED BY	DS		

APPROVED BY  
PRINCIPAL ENGINEER 3/19/91  
PARK DEPARTMENT 12/29/91  
TRAFFIC DIVISION 3/19/91  
PLANNING 2/20/91

DATE 3/19/91



UNAUTHORIZED CHANGES AND USES  
CAUTION: SCALITER IRRIGATION WILL NOT BE RESPONSIBLE FOR, OR  
LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THE IRRIGATION  
PLAN. ALL CHANGES TO THE IRRIGATION PLAN MUST BE IN WRITING  
AND MUST BE APPROVED BY SCALITER IRRIGATION.

NOTE:  
REFER TO SHEET L-8 FOR IRRIGATION LEGEND AND GENERAL NOTES.  
REFER TO SHEET L-10 AND SHEET L-11 FOR IRRIGATIONS SPECIFICATIONS.  
REFER TO SHEET L-9 FOR CONSTRUCTION DETAILS.

MAIN LINE, VALVES, IRRIGATION METERS, ETC., ARE SHOWN ON  
THE STREET AND/OR SIDEWALK FOR CLARIFICATION ONLY. INSTALL  
IN PLANTER AREA THROUGHOUT THE SITE.

NOTE: WHEN VERTICAL OBSTRUCTIONS (FIRE HYDRANTS,  
STREET LIGHTS, TREES, ETC.) INTERFERE WITH THE SPRAY  
PATTERN OF THE SPRINKLER HEADS SO AS TO PREVENT  
PROPER COVERAGE, THE IRRIGATION CONTRACTOR SHALL  
FIELD ADJUST THE SPRINKLER SYSTEM BY INSTALLING A  
QUARTER CIRCLE OR HALF CIRCLE SPRINKLER HEAD ON EACH  
SIDE OF THE OBSTRUCTION SO AS TO PROVIDE PROPER COV-  
ERAGE. ALL ADJUSTMENTS SHALL BE MADE AT NO ADDI-  
TIONAL COST TO THE OWNER. (TYPICAL)

ADJUST ALL SPRINKLER HEADS FOR HEAD  
TO HEAD COVERAGE.

\* CONCRETE MOW CURB @ LIMITS OF  
WORK (SEE PLANTING PLAN)



**SCALITER IRRIGATION**  
IRRIGATION DESIGN-WATER MANAGEMENT  
902 AARON DRIVE  
REDLANDS, CALIFORNIA 92374  
(714) 794-5811 (714) 794-5873

**Randolph Hlubik Associates, Inc.**  
Landscape Architecture • Planning  
Old City Hall • Third Floor  
3612 Seventh Street • Riverside, California 92501  
License #1512 (714) 781-1930

CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT	
APPROVED BY PRINCIPAL ENGINEER DATE 3/14/91 BY [Signature]	APPROVED BY PUBLIC WORKS DIRECTOR DATE 3/14/91 BY [Signature]
REVISIONS	APPR. DATE
MARK	DESIGNED BY [Signature] DRAWN BY [Signature] CHECKED BY [Signature]
PLANNING	DATE 3/14/91

<b>IRRIGATION PLAN</b>	
THE LUSK CO. LUSK HIGHLANDER TRACT #22408 INCREMENT 2	
RHA #89124	ACCOUNT NO. L-4 R-3073-L
SHEET 5 OF 21 (PC-2926)	
HORIZ. SCALE: 1"=30' VERT. SCALE: 1"=	

INDEXED 5-3-91



**CAUTION:** SCALITER IRRIGATION WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THE IRRIGATION PLAN. ALL CHANGES TO THE IRRIGATION PLAN MUST BE IN WRITING AND MUST BE APPROVED BY SCALITER IRRIGATION.

MAKE POINT OF CONNECTION IMMEDIATELY DOWNSTREAM OF NEW 2" IRRIGATION  
HEAD. PERMIT, R.O.W., C.O.R., P.O.W. REFER TO WATER IMPROVEMENT  
PLANS FOR ADDITIONAL INFORMATION, AND EXTEND NEW PRESSURE LINE AS SHOWN.  
PIPE TO METER AND TO BACKFLOW UNIT TO BE TYPE 'K' COPPER OR AS PER LOCAL  
CODE.

STATIC WATER PRESSURE	118 PSI
SYSTEM DESIGN PRESSURE	75 PSI
PEAK IRRIGATION DEMAND	58 GPM

AUTOMATIC IRRIGATION CONTROLLER 'G', RAIN BIRD ISC-8, TO BE ENCLOSED  
IN A "LE MEUR" VANDAL RESISTANT CONTROLLER ENCLOSURE SEE CONSTRUCTION  
DETAIL NO. 4070 SHEET L-9 120 VOLT POWER  
STUB-OUT AT THIS LOCATION BY OTHERS.

**NOTE: WHEN VERTICAL OBSTRUCTIONS (FIRE HYDRANTS, STREET LIGHTS, TREES, ETC.) INTERFERE WITH THE SPRAY PATTERN OF THE SPRINKLER HEADS SO AS TO PREVENT PROPER COVERAGE, THE IRRIGATION CONTRACTOR SHALL FIELD ADJUST THE SPRINKLER SYSTEM BY INSTALLING A QUARTER CIRCLE OR HALF CIRCLE SPRINKLER HEAD ON EACH SIDE OF THE OBSTRUCTION SO AS TO PROVIDE PROPER COVERAGE. ALL ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER. (TYPICAL)**

SET 1-1/2" PRESSURE REGULATING MASTER VALVE  
AT 75 PSI. CONNECT TO MASTER VALVE STATION A  
IRRIGATION CONTROLLER

AUTOMATIC IRRIGATION CONTROLLER 'H', RAIN BIRD ISC-12, TO BE ENCLOSED  
IN A "LE MEUR" VANDAL RESISTANT CONTROLLER ENCLOSURE SEE CONSTRUCTION  
DETAIL NO. 40700 SHEET L-9 120 VOLT POWER  
STUB-OUT AT THIS LOCATION BY OTHERS.

**NOTE:**  
AFTER ESTABLISHMENT OF ALL PLANT MATERIAL  
CONTROLLERS SHALL BE PROGRAMMED TO IRRIGATE  
SOLELY DURING NIGHTTIME. (TYPICAL)

**ADJUST ALL SPRINKLER HEADS FOR HEAD TO HEAD COVERAGE.**

**MAIN LINE, VALVES, IRRIGATION METERS, ETC., ARE SHOWN ON THE STREET AND/OR SIDEWALK FOR CLARIFICATION ONLY. INSTALL IN PLANTER AREA THROUGHOUT THE SITE.**

MAKE POINT OF CONNECTION IMMEDIATELY DOWNSTREAM OF NEW 1/2" IRRIGATION  
TIE TO BE PROVIDED BY COR. POW. REFER TO WATER IMPROVEMENT  
DIP. FOR ADDITIONAL INFORMATION, AND EXTEND NEW PRESSURE LINE AS SHOWN.  
DIP. TO METER AND TO BACKFLOW UNIT TO BE TYPE 'K' COPPER OR AS PER LOCAL  
CODE.

STATIC WATER PRESSURE	95	PSI
SYSTEM DESIGN PRESSURE	65	PSI
PEAK IRRIGATION DEMAND	28	GPM

**\* CONCRETE MOW CURB @ LIMITS OF  
WORK (SEE PLANTING PLAN)**


PUBLIC UTILITIES ELECTRIC

W. Patten 2/27/91

APPROVED DATE

# CITY OF RIVERSIDE

## PUBLIC WORKS DEPARTMENT

APPROVED BY		DATE	BY	APPROVED BY	
PRINCIPAL ENGINEER		3/10/91	DLA	 PUBLIC WORKS DIRECTOR	
PARK DEPARTMENT		1-29-91	LA		
TRAFFIC DIVISION					
CHIEF P. W. ENGINEER		3-12-91	RHB	DATE 3/14/91	
PI ANNING		2-20-91	Paom		

## IRRIGATION PLAN

THE LUSK CO.  
LUSK HIGHLANDER  
TRACT #22408  
INCREMENT 3

RHA #89124

ACCOUNT NO.	65
DATE	11-1-77
TIME	11:00
BY	11-1-77
TO	11-1-77
FROM	11-1-77
REMARKS	11-1-77

R-3073-L

SHEET 6 OF 21

HORIZ. SCALE: 1" = 30'

VERT. SCALE: 1" =

INDEXED 5-3-91 JH



UNAUTHORIZED CHANGES AND USES

CAUTION: SCALITER IRRIGATION WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THE IRRIGATION PLAN. ALL CHANGES TO THE IRRIGATION PLAN MUST BE IN WRITING AND MUST BE APPROVED BY SCALITER IRRIGATION.

AUTOMATIC IRRIGATION CONTROLLER 'A', RAINBIRD ISC-16, TO BE ENCLOSED IN A "LE MEUR" VANDAL RESISTANT CONTROLLER ENCLOSURE SEE CONSTRUCTION DETAIL NO. 4070 SHEET L-9. 120 VOLT POWER STUB-OUT AT THIS LOCATION BY OTHERS.

CONTRACTOR SEQUENCE FOLLOWED BY AN 'A', 'B' OR 'C' LETTER INDICATES THAT THE VALVES ARE TO BE CONNECTED TO THE SAME STATION NUMBER AS NOTED ON DRAWINGS TO START IRRIGATING SIMULTANEOUSLY. E.G., VALVE A48 AND VALVE A4C ARE TO BE CONNECTED TO THE SAME STATION NUMBER (510) (TYPICAL)

NOTE: REFER TO SHEET L-8 FOR IRRIGATION LEGEND AND GENERAL NOTES. REFER TO SHEET L-10 AND SHEET L-11 FOR IRRIGATIONS SPECIFICATIONS. REFER TO SHEET L-9 FOR CONSTRUCTION DETAILS.

PULL BOX (BY OTHERS)  
PROPOSED 120V SPRINKLER SERVICE POINT

MAIN LINE, VALVES, IRRIGATION METERS, ETC., ARE SHOWN ON THE STREET AND/OR SIDEWALK FOR CLARIFICATION ONLY. INSTALL IN PLANTER AREA THROUGHOUT THE SITE.

ADJUST ALL SPRINKLER HEADS FOR HEAD TO HEAD COVERAGE.

NOTE: WHEN VERTICAL OBSTRUCTIONS (FIRE HYDRANTS, STREET LIGHTS, TREES, ETC.) INTERFERE WITH THE SPRAY PATTERN OF THE SPRINKLER HEADS SO AS TO PREVENT PROPER COVERAGE, THE IRRIGATION CONTRACTOR SHALL FIELD ADJUST THE SPRINKLER SYSTEM, BY INSTALLING A QUARTER CIRCLE OR HALF CIRCLE SPRINKLER HEAD ON EACH SIDE OF THE OBSTRUCTION SO AS TO PROVIDE PROPER COVERAGE. ALL ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER. (TYPICAL)

NOTE: AFTER ESTABLISHMENT OF ALL PLANT MATERIAL CONTROLLERS SHALL BE PROGRAMMED TO IRRIGATE SOLELY DURING DAYTIME. (TYPICAL)

SET 1-1/2" PRESSURE REGULATING MASTER VALVE AT 65 PSI. CONNECT TO MASTER VALVE STATION AT IRRIGATION CONTROLLER.

MAKE POINT OF CONNECTION IMMEDIATELY DOWNSTREAM OF NEW 2" IRRIGATION METER TO BE PROVIDED BY COR. FOW. REFER TO WATER IMPROVEMENT PLANS FOR ADDITIONAL INFORMATION, AND EXTEND NEW PRESSURE LINE AS SHOWN. PIPE TO METER AND TO BACKFLOW UNIT TO BE TYPE 'K' COPPER OR AS PER LOCAL CODE.

STATIC WATER PRESSURE	82 PSI
SYSTEM DESIGN PRESSURE	65 PSI
PEAK IRRIGATION DEMAND	66 GPM

WATER LINES UPSTREAM OF IRRIGATION METERS ARE SHOWN FOR GENERAL INFORMATION ONLY, BECAUSE IT WAS REQUESTED BY THE CITY OF RIVERSIDE WATER DEPARTMENT. THEY ARE DIAGRAMMATIC AND APPROXIMATED. THE WATER METERS SHOULD BE INSTALLED FOLLOWING THE WATER PLANS AS PROVIDED BY THE ENGINEER (THE KEITH COMPANIES). TYPICAL FOR ALL IRRIGATION METERS SHOWN ON THESE PLANS.

\* CONCRETE MOW CURB @ LIMITS OF WORK (SEE PLANTING PLAN)

PUBLIC UTILITIES ELECTRIC  
APPROVED *[Signature]* DATE 2/12/91

CITY OF RIVERSIDE  
PUBLIC WORKS DEPARTMENT

APPROVED BY *[Signature]* DATE 3/14/91  
PRINCIPAL ENGINEER  
PARK DEPARTMENT  
TRAFFIC DIVISION  
CHIEF P.W. ENGINEER  
PLANNING

MARK	REVISIONS	APPR.	DATE

<b>IRRIGATION PLAN</b>		RHA #89124
THE LUSK CO. LUSK HIGHLANDER TRACT #22408 INCREMENT 3		ACCOUNT NO. L-0 R-3073-L
HORIZ. SCALE: 1" = 30' VERT. SCALE: 1" = 10'		SHEET 7 OF 21 (PC-2926)

SCALITER IRRIGATION  
IRRIGATION DESIGN-WATER MANAGEMENT  
902 AARON DRIVE  
REDLANDS, CALIFORNIA 92374  
(714) 794-5811 (714) 794-5873

Randolph  
Hlubik  
Associates, Inc.  
Landscape Architecture • Planning  
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3612 Seventh Street • Riverside, California 92501  
License #1512 (714) 781-1930



INDEXED S-3-91



**UNAUTHORIZED CHANGES AND USES**

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**ADJUST ALL SPRINKLER HEADS FOR HEAD TO HEAD COVERAGE.**

**AUTOMATIC IRRIGATION CONTROLLER 'B', RAIN BIRD ISC-24, TO BE ENCLOSED  
IN A "LE MEUR" VANDAL RESISTANT CONTROLLER ENCLOSURE SEE CONSTRUCTION  
DETAIL NO. 4070 SHEET 68-63-2-120 VOLT POWER  
STUB-OUT AT THIS LOCATION BY OTHERS.**

NOTE:  
AFTER ESTABLISHMENT OF ALL PLANT MATERIAL  
CONTROLLERS SHALL BE PROGRAMMED TO IRRIGATE  
SOLELY DURING NIGHTTIME. (TYPICAL)

TAKE POINT OF CONNECTION IMMEDIATELY DOWNSTREAM OF NEW 2" IRRIGATION  
PIE TO BE PROVIDED BY: COR, POW REFER TO WATER IMPROVEMENT  
PLANS FOR ADDITIONAL INFORMATION, AND EXTEND NEW PRESSURIZED IRRIGATION  
PIPE TO METER AND TO BACKFLOW UNIT TO BE TYPE 'C' COPPER OR AS PER LOCAL  
CODE.

STATISTICAL WATER PRESSURE  
SYSTEM DESIGN PRESSURE  
PEAK IRRIGATION DEMAND

72 PSI  
72 PSI  
56 PSI

**NOTE: WHEN VERTICAL OBSTRUCTIONS (FIRE HYDRANTS, STREET LIGHTS, TREES, ETC.) INTERFERE WITH THE SPRAY PATTERN OF THE SPRINKLER HEADS SO AS TO PREVENT PROPER COVERAGE, THE IRRIGATION CONTRACTOR SHALL FIELD ADJUST THE SPRINKLER SYSTEM BY INSTALLING A QUARTER CIRCLE OR HALF CIRCLE SPRINKLER HEAD ON EACH SIDE OF THE OBSTRUCTION SO AS TO PROVIDE PROPER COVERAGE. ALL ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER. (TYPICAL)**

LEAVE 1-1/4" LATERAL STUB-OUTS, IN  
CLOUDED AREA, FOR FUTURE CONSTRUCTION

METER 15 SCHEMATIC ENLARGEMENT  
NOT TO SCALE

MAIN LINE, VALVES, IRRIGATION METERS, ETC., ARE SHOWN ON THE STREET AND/OR SIDEWALK FOR CLARIFICATION ONLY. INSTALL IN PLANTER AREA THROUGHOUT THE SITE.

**NOTE:**  
REFER TO SHEET L-8 FOR IRRIGATION LEGEND AND GENERAL NOTES.  
REFER TO SHEET L-10 AND SHEET L-11 FOR IRRIGATIONS SPECIFICATIONS.  
REFER TO SHEET L-9 FOR CONSTRUCTION DETAILS.

**NOTE:**  
CONTROLLER SEQUENCE FOLLOWED BY AN 'a', 'b' or 'c' LETTER INDICATES THAT THE VALVES ARE TO BE CONNECTED TO THE SAME STATION NUMBER AS NOTED ON DRAWINGS TO START IRRIGATING SIMULTANEOUSLY. e.g., VALVE A4b AND VALVE A4c ARE TO BE CONNECTED TO THE SAME STATION NUMBER 4 AT CONTROLLER 'A'. TYPICAL.

**\*CONCRETE MOW CURB @ LIMITS OF  
WORK (SEE PLANTING PLAN)**

PUBLIC UTILITIES ELECTRIC  
W. L. Lutter 2-22-91  
APPROVED DATE

**CITY OF RIVERSIDE**  
**PUBLIC WORKS DEPARTMENT**

	APPROVED BY	DATE	BY	APPROVED BY
	PRINCIPAL ENGINEER	3/8/91	me	Bay Paul
	PARK DEPARTMENT	12-91	me	
	TRAFFIC DIVISION			PUBLIC WORKS DIRECTOR
	CHIEF P. W. ENGINEER	3-12-91	R.H.	
DATE	DIAMOND	2-22-91	R.H.	DATE

**IRRIGATION PLAN**  
THE LUSK CO.  
**LUSK HIGHLANDER**  
TRACT #22408  
INCREMENT 3

RHA #89124

ACCOUNT NO. L-7  
**R-3073-L**  
SHEET 8 OF 21

HORIZ. SCALE: 1" = 30'      VERT. SCALE: 1" = 10'

(PC-2926)

INDEXED 5-9-91 LHM

**Si** **SCALITER IRRIGATION**  
IRRIGATION DESIGN-WATER MANAGEMENT  
902 AARON DRIVE  
REDLANDS, CALIFORNIA 92374  
(714) 794-5811 (714) 794-5873

**RA** Randolph  
Hlubik  
Associates, Inc.  
Landscape Architecture • Planning

Old City Hall • Third Floor  
3612 Seventh Street • Riverside, California 92501  
License #1512 (714) 781-1930

[illegible]



IRRIGATION	SYSTEM	CALCULATION
METER 15	VALVE SECTION B15	FLOW 33 GPM

IRRIGATION	SYSTEM	CALCULATION
METER 5	VALVE SECTION C4	FLOW 64 GPM

IRRIGATION	SYSTEM	CALCULATION
METER 1	VALVE SECTION D17	FLOW 41 GPM

## UNAUTHORIZED CHANGES AND USES

**Si** **SCALITER IRRIGATION**  
IRRIGATION DESIGN-WATER MANAGEMENT  
902 AARON DRIVE  
REDLANDS, CALIFORNIA 92374  
(714) 794-5811 (714) 794-5873

# CITY OF RIVERSIDE

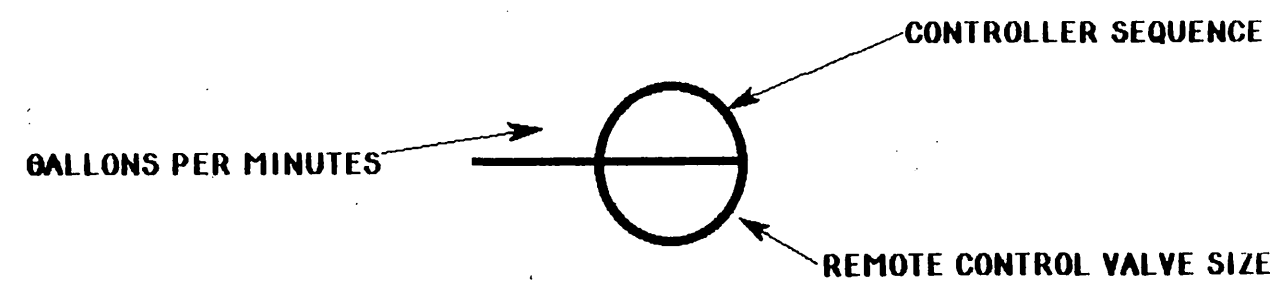
## PUBLIC WORKS DEPARTMENT

THE LUSK CO.  
LUSK HIGHLANDER  
TRACT # 22408  
INCREMENTS 1,2 & 3























ACCOUNT NO.  
L.B.  
**R-3073-L**  
SHEET 9 OF 21  
(PC--2926)

## GENERAL LEGEND

SYM.	DESCRIPTION	MANUF. & PART NO.	REFERENCE
	REMOTE CONTROL VALVE, SIZE INDICATED	GRISWOLD 2000 SERIES	DETAIL 4030
	MASTER VALVE, SIZE INDICATED	GRISWOLD 2230 SERIES	DETAIL 4030
	REMOTE CONTROL VALVE, SIZE INDICATED	GRISWOLD 2230 SERIES	DETAIL 4030
	BACKFLOW PREVENTION UNIT SIZE INDICATED ON DRAWINGS	FEBCO 825V-S	DETAIL 4011
	GATE VALVE, PIPE SIZE	2" AND SMALLER NIBCO T-113 2-1/2" AND LARGER NIBCO WD-2000	DETAIL 4020
	QUICK COUPLING VALVE	RAIN BIRD 44LRC	DETAIL 4050
	AUTOMATIC CONTROLLER, NUMBER OF STATIONS INDICATED ON DRAWINGS	RAIN BIRD ISC-SERIES	DETAIL 4070
	NEW IRRIGATION METER BY DEVELOPER, SIZE INDICATED ON DRAWINGS	N/A	N/A
	PRESSURE SUPPLY LINE TO METER AND TO B.P.U. SIZE INDICATED	TYPE 'K' COPPER, OR AS PER LOCAL CODE	SPECIFICATION
	PRESSURE SUPPLY LINE, SIZE INDICATED	4" AND LARGER USE CLASS 200 (ASTM D-2241) 2"-2-1/2" AND 3" USE PVC CLASS 315 1 1/2" AND SMALLER USE PVC SC 40	SPECIFICATION SPECIFICATION SPECIFICATION
	NON PRESSURE LINE, SIZE INDICATED	PVC CLASS 200	SPECIFICATION
	DENOTE MAIN LINE SLEEVE, SIZE INDICATED	PVC SC. 40	SPECIFICATION
	DENOTE LATERAL LINE SLEEVE, SIZE INDICATED	PVC SC. 40	SPECIFICATION
	DENOTE SLEEVE FOR WIRES, SIZE INDICATED	PVC SC. 40	SPECIFICATION



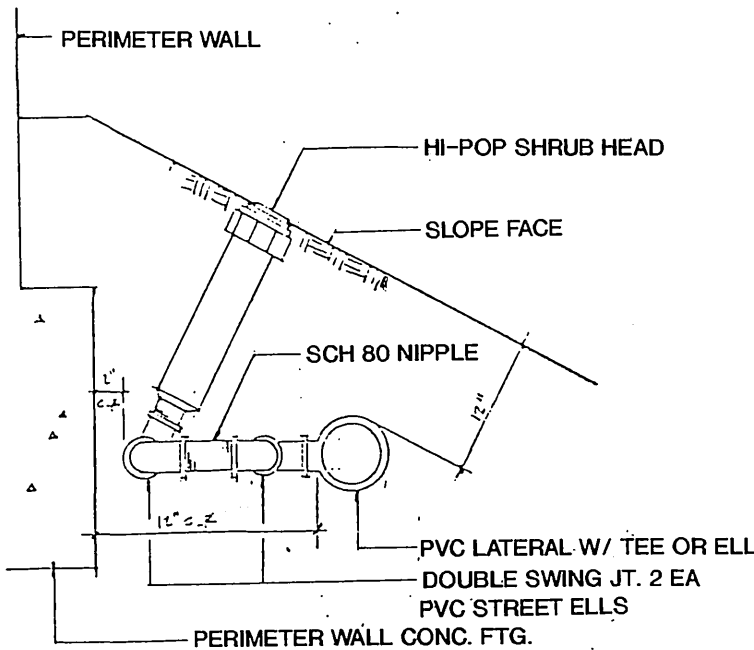
## SPRINKLER HEADS

SYM	DESCRIPTION	MANUF. & PART NO.	GPM	RAD	PSI	ACF	DETAIL NO.
	FULL CIRCLE ROTOR HEAD	HUNTER PGH-360-D10	5.5	35	35	360°	4040
	PART CIRCLE ROTOR HEAD	HUNTER PGH-ADJ-D09	4.5	40	35	N/A	4040
	PART CIRCLE ROTOR HEAD	HUNTER PGH-ADJ-D08	3.4	35	35	N/A	4040
	PART CIRCLE ROTOR HEAD	HUNTER PGH-ADJ-D07	2.8	35	35	N/A	4040
	PART CIRCLE ROTOR HEAD	HUNTER PGH-ADJ-D06	2.2	25	35	N/A	4040
	PART CIRCLE ROTOR HEAD	HUNTER PGH-ADJ-D05	1.7	20	35	N/A	4040
	PART CIRCLE ROTOR HEAD	HUNTER PGH-ADJ-D04	1.4	35	35	90°	4040
	PART CIRCLE ROTOR HEAD	HUNTER PGH-ADJ-D04	1.4	20	35	N/A	4040
	PART CIRCLE ROTOR HEAD	HUNTER PGH-ADJ-D03	1.1	20	35	N/A	4040
	HALF CIRCLE SPRAY HEAD	RAIN BIRD 1806-15H-SAM	1.85	15	30	180°	4040
	1/4 CIRCLE SPRAY HEAD	RAIN BIRD 1806-15Q-SAM	0.93	15	30	90°	4040
	ADJ. CIRCLE SPRAY HEAD	RAIN BIRD 1806-15VAN-SAM	N/A	N/A	30	N/A	4040
	HALF CIRCLE SPRAY HEAD	RAIN BIRD 1806-12H-SAM	1.3	12	30	180°	4040
	1/4 CIRCLE SPRAY HEAD	RAIN BIRD 1806-12Q-SAM	0.65	12	30	90°	4040
	HALF CIRCLE SPRAY HEAD	RAIN BIRD 1806-10HLA-SAM	0.79	10	30	180°	4040
	1/4 CIRCLE SPRAY HEAD	RAIN BIRD 1806-10QLA-SAM	0.39	10	30	180°	4040
	STRIP SPRAY HEAD	RAIN BIRD 1806-15EST-SAM	1.21	N/A	30	4X30	4040
	END STRIP SPRAY HEAD	RAIN BIRD 1806-15EST-SAM	0.61	N/A	30	4X15	4040
	HALF CIRCLE STREAM HEAD	RAIN BIRD 1806-816H-SLA-SAM	1.2	15	30	180°	4040
	1/4 CIRCLE STREAM HEAD	RAIN BIRD 1806-816Q-SLA-SAM	0.8	15	30	90°	4040
	HALF CIRCLE STREAM HEAD	RAIN BIRD 1806-822H-SS-SAM	1.2	22	30	180°	4040
	1/4 CIRCLE STREAM HEAD	RAIN BIRD 1806-822Q-SS-SAM	0.8	22	30	90°	4040

DET.A THIS SHT.  
AT PERIMETER WALL WITH SLOPE

NOTE:  
IN NARROW AREAS (6 FEET OR LESS) USE NOZZLE RAIN BIRD 10 SERIES, AS INDICATED ON  
DRAWINGS, WITH PRESSURE COMPENSATOR SCREENS RAIN BIRD PCS SERIES, TO PREVENT  
OVERSPRAY ON STREETS, SIDEWALKS, WALLS, ETC. AS SHOWN IN THE FOLLOWING TABLE.

MODEL	PCS-020	PCS-030	PCS-040	PCS-060	PCS-090	PCS-125	PCS-175
G.P.M	0.2	0.3	0.4	0.6	0.9	1.25	1.75
COLOR	BROWN	SILVER	ORANGE	BLACK	WHITE	GREEN	YELLOW
10F	N/A	N/A	1' BUB.	3'	4'	5'	10'
10H	N/A	N/A	5'	7'	10'		
10T	3'	5'	7'	10'			
10Q	5'	5'	10'				



### A SHRUB POP-UP AT PERIMETER WALL

## IRRIGATION NOTES

[illegible]

HORIZ. SCALE: 1" =                      VERT. SCALE: 1" =

INDEXED 5-3-91 LTH







## PART 1 - GENERAL

## 1.01 RELATED DOCUMENTS:

The provisions of the "Standard Specifications for Public Works Construction", current edition, shall apply except as modified herein.

## 1.02 SCOPE:

## A. General:

The work of this section shall include the furnishing of all labor, materials, equipment and services necessary to provide complete operating irrigation systems, including 120 volt electrical service to the controller, all as shown on the drawings and as specified.

## B. Related Work Specified Elsewhere:

Site Clear and Grub	02110
Site Grading	02210
Selected Site Demolition	02111
Planting	02480
Electrical	16530

## 1.03 SUBMITTALS:

## A. Materials List:

Contractor shall submit a complete materials list for approval by the City prior to performing any work. Catalog data and full descriptive literature must be submitted whenever the use of items different than those specified is requested. Notarized certificate must be submitted by plastic pipe and fitting manufacturer indicating that material complies with specifications, unless material has been previously approved.

Material list shall be submitted using the following format:

Item	Description	Manufacturer	Model No.
1	Pressure Supply Line	Lasco	Sch. 40
2	Lawn Head	Rainbird	2400
etc.	etc.	etc.	etc.

## B. "Record" Prints:

- (1) Record accurately on one set of blue-line prints all changes in the work constituting departures from the original contract drawings, including changes in pressure and non-pressure line locations.
- (2) The changes and dimensions shall be recorded in a legible and workmanlike manner to the satisfaction of the City. Prior to final inspection of work, submit record prints to City for approval.
- (3) Dimension from two permanent points of reference (buildings, monuments, sidewalks, curbs, pavement, etc. Data to be shown on record prints shall be recorded day-to-day as the project is being installed.
- (4) Show locations and depths of the following items:
  - a. Point of connection.
  - b. Routing of sprinkler pressure lines (dimension maximum 100 feet along routing).
  - c. Gate valves.
  - d. Sprinkler control valves.
  - e. Quick coupling valves.
  - f. Routing of control wires.
  - g. Related equipment (as may be directed).
- (5) Maintain record prints onsite at all times.

## 1.04 INSPECTIONS:

## A. Inspections will be required for:

- (1) Pressure test of irrigation main line.
- (2) Coverage test.
- (3) Final inspection/start of maintenance.
- (4) Final acceptance.

## B. Inspection Requests:

Contractor shall notify the Park Projects Inspector in advance for requesting all inspections as follows:

Pressure supply line installation and testing - 36 hours (1-1/2 working days)  
System layout - 36 hours (1-1/2 working days)  
Coverage tests - 36 hours (1-1/2 working days)  
Final inspection - 48 hours (two working days)

When inspections have been conducted by other than the Park Projects Inspector, the Contractor shall show evidence of when and by whom these inspections were made.

No inspection will commence without "record" prints. In the event the Contractor calls for an inspection without up to date "record" prints, without completing previously noted corrections, or without preparing the system for inspection, the inspection will be cancelled and the Contractor back charged for the direct costs of all City personnel time and consultant time lost.

## C. Closing in uninspected work:

Do not allow or cause any of the work of this section to be covered up or enclosed until it has been inspected, tested and approved by the City.

## D. Coverage test:

When the sprinkler system is completed, Contractor shall perform a coverage test in the presence of the City to determine if the water coverage for planting areas is complete and adequate. This test must be accepted by the City before planting can commence.

## E. Hydrostatic test:

- (1) Prior to the installation of any valves, all pressure lines shall be tested under a hydrostatic pressure of 150 psi for a period of not less than two hours, with all ends of lines capped and the line fully charged with water after all air has been expelled from the line.
- (2) All hydrostatic tests shall be made in the presence of the City. No pressure line shall be backfilled until it has been inspected, tested, approved in writing, and the mainline and valve locations have been noted on the "as-built" record drawings.
- (3) Contractor shall furnish necessary force pump and all other test equipment.

## 1.05 TURNOVER ITEMS:

## A. Controller Charts:

- (1) Record prints must be approved by City before charts are prepared.
- (2) Provide one controller chart (of the maximum size controller door will allow) for each automatic controller. Chart shall show the area covered by controller.
- (3) The chart is to be a reduced copy of the actual "record" print. In the event the controller sequence is not legible when the print is reduced, it shall be enlarged to a readable size.
- (4) Chart shall be marked with a different color to show the area of coverage for each station.
- (5) When completed and approved, the chart shall be hermetically sealed between two pieces of plastic, each piece being minimum 20 mils in thickness. Chart shall be installed in the controller enclosure using velcro fasteners.
- (6) Controller charts shall be completed prior to final inspection.

## B. Operation and Maintenance Manuals:

Within 10 calendar days prior to acceptance of construction, prepare and deliver to the City all required descriptive materials, properly prepared in two individually bound copies of the operation and maintenance manual. The manual shall describe the material installed and shall be in sufficient detail to permit operating personnel to identify, operate, and maintain all equipment. Spare parts lists and related manufacturer's information shall be included for each equipment item installed. Each complete, bound manual shall include the following information:

- (1) Index sheet stating Contractor's address and telephone number, including names and addresses and telephone numbers of local manufacturer's representatives.
  - (2) Complete operating and maintenance instructions on all major equipment.
- C... Materials to be furnished:
- (1) Supply as part of this contract the following items:
    - a. 4% additional sprinkler heads of each type and spray pattern shown.
    - b. Two (2) wrenches for disassembly and adjustment of each type sprinkler head installed.
    - c. Two keys for each automatic controller.
    - d. Two couplers with a 3/4" bronze hose bib, bent nose type with hand wheel and two coupler keys.
    - e. One valve box cover key.
    - f. "As-built" record drawings.
    - g. Remove and turn over backflow device valve handles.
    - h. Documentation of Water Department's inspection and acceptance of backflow device.

## D. The above items shall be turned over to the City at the conclusion of the project - final inspection.

## 1.06 GUARANTEE:

## A. General:

The entire sprinkler system, including all work done under this contract, shall be guaranteed against all defects and fault of material and workmanship for a period of ONE (1) year following the filing of the Notice of Completion. All materials used shall carry a manufacturer's guarantee of ONE (1) year.

Should any problem with the irrigation system be discovered within the guarantee period, it shall be corrected by the Contractor at no additional expense to the City within ten (10) calendar days of receipt of written notice from the City. When the nature of the repairs as determined by the City constitute an emergency (e.g. broken pressure line) the City may proceed to make repairs at the Contractor's expense. Any and all damages to existing improvement resulting either from faulty materials or workmanship, or from the necessary repairs to correct same, shall be repaired to the satisfaction of the City by the Contractor, all at no additional cost to the City.

## B. Form of Guarantee:

Guarantee shall be submitted on Contractors own letterhead as follows:

## GUARANTEE FOR SPRINKLER IRRIGATION SYSTEM

We hereby guarantee that the sprinkler irrigation system we have furnished and installed is free from defects in materials and workmanship, and the work has been completed in accordance with the drawings and specifications, ordinary wear and tear and unusual abuse, or neglect excepted, and that the work, materials, and equipment as installed will fulfill the requirements of the guarantee included in the specifications. We agree to repair or replace any or all of our work, together with any other adjacent work which may be displaced by so doing, that may prove to be defective in its workmanship or materials within a period of ONE (1) year from date of acceptance of the above named project by the City of Riverside, California, at no additional cost to the City. We shall make such repairs or replacements within 10 calendar days following written notification by the City. When the immediate repair or replacement of the work is necessary to ensure the public safety and welfare, which would be endangered by continued usage of the facility, such circumstance will be deemed an operational emergency. In the event of such an emergency after the City contacts our firm and after authorizing 24 hours to initiate repairs, if we fail to initiate and diligently complete such repairs in a timely manner, the Director may direct City forces to perform such functions as he may deem necessary to correct the work and immediately place the facility back in operational condition. If such procedure is implemented, we shall bear all expenses incurred by the City. In all cases, the judgement of the Director shall be final in determining whether an operational emergency exists. In the event of our failure to make such repairs or replacements within the time specified after receipt of written notice from the City (other than an operational emergency), we authorize the City to proceed to have said repairs or replacements made at our expense and we will pay the costs and charges therefore upon demand.

PROJECT: \_\_\_\_\_  
LOCATION: \_\_\_\_\_

SIGNED: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
PHONE: \_\_\_\_\_

## C. After the system has been completed, the Contractor shall instruct the Parks Department Representative in the operation and maintenance of the system and shall furnish a complete set of operating instructions.

## D. Any settling of trenches which may occur during the ONE-year period following acceptance shall be repaired to City's satisfaction by the Contractor without any additional expense to the City. Repairs shall include the complete restoration of all damage to planting, paving or other improvements of any kind as a result of the work.

## PART 2 - MATERIALS

## 2.01 GENERAL:

All materials shall conform with Section 212 of the Standard Specification except as modified herein.

## 2.02 PIPE AND FITTINGS:

## A. Pipe - General:

- (1) Pressure supply lines 2 inches in diameter and up to 8 inches in diameter shall be either Class 315 solvent weld PVC or Class 200 rubber gasket type PVC. Solvent weld and ring type pipe shall not be used together on the same pressure supply line.
- (2) Pressure supply lines 1-1/2 inches in diameter and smaller shall be minimum schedule 40 PVC.
- (3) Non-pressure lines shall be minimum Class 200 PVC.

## B. Steel Pipe:

Amend Standard Specifications Section 212-2.1.2 to read: "All steel pipe shall be hot-dipped galvanized, and add: "All fittings for steel pipe shall be 250 pound rated galvanized malleable iron, banded pattern. Pipe sizes indicated on the drawings are nominal inside diameter, unless otherwise noted."

## C. Plastic Pipe:

Add the following to Standard Specifications Section 212-2.1.3: All plastic pipe shall bear the following markings: manufacturer's name, nominal pipe size, schedule or class, type of material, pressure rating in PSI, NSF seal of approval, and date of extrusion.

Amend Standard Specification Section 212-2.1.3 to read: All plastic pipe fittings shall be standard weight schedule 40 and shall be injection molded of an improved PVC fitting compound. All threaded plastic fittings shall have injection molded threads. No cut threads will be accepted on PVC pipe and fittings. All tees and elbows shall be manufactured in injection molds that are side gated. All threaded nipples shall be standard weight schedule 40 with molded threads.

Amend first sentence of Standard Specification Section 212-2.1.4 to read: "All rubber gasket PVC pipe, couplings, and fittings shall conform to ASTM D 2241 Type 1, Grade 1, 2000-PSI design stress; and add the following to the section: "Couplings, rubber gaskets, and fittings shall be as approved by the pipe manufacturer. Ring-type rubber gasket couplings shall permit a five (5) degree deflection of the pipe at each coupling (2-1/2 degrees each side) without exfiltration or infiltration, cracking or breaking."

## D. Asbestos Cement Pipe:

Add the following to Standard Specifications Section 212-2.1.6: Fittings for A.C.P. connection laterals shall be cast iron tees and bossed couplings except as follows:

- (1) Double strap service clamps with rubber seals and flat bronze straps may be used for connections of 50 percent or less than the diameter of pipe.
- (2) Tapped A.C.P. couplings with brass inserts may be used for connections of 3/4, 1, 1-1/4, 1-1/2 and 2 inches.

## 2.03 VALVES AND VALVE BOXES:

## A. Manual Control Valves:

Add the following to Standard Specifications Section 212-2.2.3: Anti-siphon-type valves shall be all bronze with swivel-type replaceable seating members and an approved vacuum breaker as an integral part of assembly.

## B. Remote Control Valves:

Add the following to Standard Specifications Section 212-2.2.4: Valves shall be spring-loaded, self-cleaning, packless diaphragm activated of a normally closed type. Valves shall be of the same manufacturer and series as the automatic controller.

Valve solenoid shall be corrosion-proof and constructed of stainless steel molded in epoxy to form one integral unit, and shall be 24 volt A.C., 2.0 watt maximum (2" and smaller valves).

Valve shall close against flow without chatter and with minimum closing surge pressure (minimum 5 seconds closing time per valve).

Valve shall be completely serviceable in the field without removing valve body from line.

## C. Quick-Coupling Valves:

Add the following to Standard Specifications Section 212-2.2.6: Quick coupling valves shall have locking vinyl cover and shall be 1" in size.

## D. Gate Valves:

All gate valves shall be capable of withstanding a minimum working pressure of not less than 150 psi.

## E. Valve Boxes:

Add the following to Standard Specifications Section 212-2.2.7: All remote control valve boxes shall be rectangular concrete boxes with non-hinged locking cast-iron covers. Valve station number shall be stenciled in two-inch-high (2") numerals on cover using epoxy resin base paint of a contrasting color. Gate valve boxes shall be round concrete boxes with non-hinged locking cast iron covers marked either "Gate Valve" or "G. V." with letters cast or tooled in the cover.

## 2.04 BACKFLOW PREVENTER:

Add the following to Standard Specifications Section 212-2.3: The backflow prevention unit shall be a reduced pressure type vacuum breaker of the size, manufacture, and model number as indicated on the drawings. If not indicated, the device shall be the same size as the water service and the manufacturer and model number shall be as approved by the City.

## 2.05 ELECTRICAL MATERIALS

## A. Conduit:

Amend Standard Specifications Section 212-3.2.1 to read: Conduit below paving shall be schedule 40 PVC of sufficient size to carry all proposed wiring. Wiring shall be in a separate sleeve.

## B. Wire:

Add the following to Standard Specifications Section 212-3.2.2:

All common wire shall be white with a colored stripe. Stripe color shall be different for each controller installed. All control wire shall be of one color other than white or green. A different color control wire shall be used for each controller installed.

## C. Electrical Service:

Materials for electrical service shall comply with the standard specifications, governing utility agency standards, and requirements of all applicable codes.

## 2.06 CONTROLLER UNIT:

Add the following to Standard Specifications Section 212-3.3:

Controllers shall be wall mounted type, as indicated on the drawings, with a heavy duty watertight case and locking hinged cover.

## 2.07 IRRIGATION HEADS:

All irrigation heads shall be as shown on the plans and shall conform with Section 212-2.4 of the Standard Specifications.

## PART 3 - EXECUTION

## 3.01 GENERAL:

All work shall conform with Section 308 of the Standard Specifications except as modified herein. No work of this section other than sleeving under pavement shall commence prior to the completion and acceptance of all grading work specified in Section 02210.

Add the following to Standard Specifications Section 308-5.1:

## A. Water Supply:

Connections to or the installation of the water supply shall be at the locations shown on the drawings. Minor changes caused by actual site conditions shall be made at no additional cost to the City.

## B. Electrical Service:

Contractor shall provide electrical service as necessary and make 120V connection to the irrigation controllers.

<b>CITY OF RIVERSIDE</b> PUBLIC WORKS DEPARTMENT				<b>THE LUSK CO.</b> LUSK HIGHLANDER TRACT # 22408 INCREMENTS 1,2 & 3		ACCOUNT NO. L-10 <b>R-3073-L</b>	
APPROVED BY	DATE	BY	DATE	APPROVED BY	DATE	SHEET	OF
PRINCIPAL ENGINEER	3/18/91	WLA	2/1/91	PUBLIC WORKS DIRECTOR	3/14/91	11	2
PARK DEPARTMENT							
TRAFFIC DIVISION							
CHIEF P.W. ENGINEER	3-13-91						
PLANNING	2-20-91	RAM					
DESIGNED BY	DRAWN BY	CHECKED BY		DATE		HORIZ. SCALE: 1" =	VERT. SCALE: 1" =



## IRRIGATION SPECIFICATIONS



C. Code Requirements:

Prior to all work of this section, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where this installation may properly commence. Verify that irrigation system may be installed in strict accordance with all pertinent codes and regulations, the original design, the referenced standards, and the manufacturer's recommendations.

In the event any equipment or methods indicated on the drawings or in specifications is in conflict with local codes, immediately notify the inspector prior to installing. If this notification is not provided, the Contractor shall assume full responsibility for the cost of all revisions necessary to comply with code.

D. Grades:

Before starting work of this section, the contractor shall obtain the written acceptance of the City of the fine grades, and written authorization for the work of this section to proceed. Contractor is to keep within the specified material depths with respect to finish grade. Failure to obtain such written acceptance may subject the contractor to adjusting the grades or depth of lines in order to achieve acceptable depths of cover, all as directed by the City and at no additional cost to the City.

E. Coordination with work of other trades:

Make all necessary measurements in the field to ensure precise fit of items in accordance the original design. Contractor shall coordinate the installation of all irrigation materials with all other work. Special attention shall be given to coordination of piping locations versus tree and shrub locations and sleeve locations versus pavement installation to avoid conflicts.

F. Contractor shall maintain record drawing blueprint on site at all times. Upon completion of work, transfer all as-built information on changes and dimensions to reproducible sepi prints. The changes and dimensions shall be recorded in a legible and workmanlike manner, to the satisfaction of the Park Projects Inspector.

3.02 TRENCHING AND BACKFILLING:

A. Trenching:

- (1) Add the following to Standard Specifications Section 308-2.2: Dig trenches and support pipe continuously on bottom of ditch. Where lines occur under paved areas, depth dimensions shall be considered below subgrade.
- (2) Amend Standard Specifications Section 308-2.2.2 to read: Water lines continuously pressurized - minimum 18 inches, maximum 24 inches. (These measurements are to be from subgrade elevation for piping under pavement.)
- (3) Amend Standard Specifications Section 308-2.2, paragraph 3) to read: Lateral sprinkler lines - minimum 12 inches and maximum 16 inches.
- (4) Add the following to Standard Specifications Section 308-2.2: Where it is necessary to excavate adjacent to existing trees, the contractor shall avoid injury to trees and tree roots. Excavation in areas where 2-inch and larger roots occur shall be done by hand. All roots 2 inches and larger in diameter shall be tunneled under and shall be heavily wrapped with wet burlap to prevent scarring or drying. Where trenching machine is run close to trees having roots smaller than 2 inches in diameter, the wall of the trench adjacent to the tree shall be hand trimmed, making a clean cut through the roots. Roots 1 inch and larger in diameter shall be painted with two coats of tree seal or approved equal. Trenches adjacent to trees shall be closed within 24 hours.
- (5) Permanent Resurfacing: Add the following to Standard Specifications Section 308-5.1: All surface improvements damaged or removed as a result of the contractor's operations shall be reconstructed by the contractor to the same dimensions, except for pavement thickness, and with the same type materials used in the original work. Trench resurfacing shall be 1 inch greater in thickness than existing pavement. Concrete pavement shall be removed and replaced in "full panels" with no horizontal dimension less than five (5) feet. Contractor shall review the planned limits and lines of concrete removal and replacement with the Park Projects Inspector prior to sawcutting for removal work.

B. Backfill:

Amend Standard Specifications Section 308-2.2 to read: Backfill shall be uniformly tamped in 4-inch layers under and around the pipe for the full width of the trench and the full length of the pipe. Materials shall be sufficiently damp to permit thorough compaction, free of voids. Backfill shall be compacted to dry density equal to adjacent undisturbed soil and shall conform to adjacent grades.

Flooding in lieu of tamping is not allowed without specific prior written approval of the Soils Engineer and the Park Projects Inspector.

Under no circumstances shall the wheels of any vehicle not designed for the purpose of soils compaction be used to compact backfill.

3.03 PIPE INSTALLATION:

A. General: Add the following to Standard Specifications Section 308-5.2.1:

- (1) Piping under existing pavement may be installed by jacking, boring, or hydraulic driving. However, no hydraulic driving is permitted under asphaltic concrete pavement.
- (2) Cutting or breaking of existing pavement is not permitted except as approved by Park Projects Inspector. When approved, all necessary repairs and replacements will be made at no additional cost to the City.
- (3) Carefully inspect all pipe and fittings before installation, removing all dirt, scale and burrs and reaming; install pipe with all markings up for visual inspection and verification.

(4) Contractor shall install concrete thrust blocking per the manufacturer's recommendations at all changes of direction and terminal points of pressure pipe.

(5) Parallel lines shall not be installed directly over one another. Provide a minimum of 12" horizontal separation for all parallel lines.

(6) For plastic-to-metal connections, work the metal connections first. Use a non-hardening pipe dope on all threaded plastic-to-metal connections, except where noted otherwise.

(7) All piping under pavement shall be sleeved using schedule 40 PVC sleeves. Each line shall be separately sleeved.

(8) Do not install multiple assemblies ("manifold") on plastic lines. Provide each equipment assembly (e.g. RCV, quick coupler, gate valve, head, backflow device) with its own connection to its service line.

B. Plastic Pipe: Add the following to Standard Specifications Section 308-5.2.3:

- (1) Exercise care in handling, loading, unloading and storing plastic pipe and fittings, store plastic pipe and fittings under cover until ready to install; transport plastic pipe on a vehicle with a bed long enough to allow pipe to lay flat, avoid undue bending and any concentrated external load.
- (2) 360° applicators shall be used to apply primer and solvent on pipe sizes 2-1/2 inches and larger.

3.04 BACKFLOW INSTALLATION:

Add the following to Standard Specifications Section 308-5.3: Install backflow assemblies at locations approved in the field by the Park Projects Inspector and at heights required by local codes.

3.05 VALVE AND VALVE BOX INSTALLATION:

Amend Standard Specifications Section 308-5.3 to read: Valves shall be the same size as the pipeline in which they are installed unless otherwise specified on plans. Valves shall be installed a minimum of three feet in horizontal distance apart, each with its own connection to the pressure main line.

Amend Standard Specifications Section 308-5.3 to read: Install quick couplers and valve boxes per Parks and Recreation Department standard details.

Add the following to Standard Specifications Section 308-5.3: Valves shall be installed in shrub areas whenever possible. No valves or valve boxes shall be installed within a designated athletic playing field.

3.06 SPRINKLER HEAD INSTALLATION:

Amend Standard Specifications Section 308-5.4.1 to read: Sprinkler heads shall be installed as designated on the drawings and per Parks and Recreation standard details.

3.07 CONTROLLER INSTALLATION:

Add the following to Standard Specifications Section 308-5.3: The controller location, as shown on the plans, is diagrammatic. The final location of the controller shall be as approved by the Park Projects Inspector before installation. The Contractor shall coordinate the electrical service with this location. The controller shall be wall mounted within a Le Mur vandal resistant enclosure, unless noted otherwise on the plan. Controller enclosure shall be located in shrub areas and/or adjacent to other hardscape items. Enclosure shall be painted with two coats of paint, color as approved; submit samples. A 4" thick concrete slab for maintenance access shall be provided, size approximately 15 sq. ft., line, grade and dimensions as directed by the Park Projects Inspector.

Following establishment of the turf, the irrigation system shall be programmed to operate during the periods of minimal use of the project area (i.e., 11:00 p.m. through 6:00 a.m.).

3.08 WIRING:

Add the following to Standard Specifications Section 308-5.5: All splice connections shall occur in a valve box. All wire runs between the valve and the controller shall be a continuous run with no splices unless noted otherwise on the plan.

All low voltage wiring splices shall be made-up as soldered connections, wrapped with a minimum of two (2) layers of electrical tape and sealed with Scotch-coat. Scotch-lok, Uni-pack, Penn-tite, or other similar type connectors are not acceptable.

3.09 FINISHING AND TESTING:

Add the following to Standard Specifications Section 308-5.6.2: Centerload all plastic pipe prior to pressure testing. Amend Standard Specifications Section 308-5.6.2 to read: Pressure test the mains - minimum 2 hours at 150 PSI. Add the following to Standard Specifications Section 308/5.6.2: The entire system shall be operating properly before any planting operations commence.

3.10 COMPLETION CLEANING:

Add the following to Standard Specifications Section 308: Upon completion of the work, Contractor shall smooth all ground surfaces, remove excess materials, rubbish, debris, etc., sweep adjacent streets, curbs, gutters, walkways and trails, and remove construction equipment from the premises.

END OF SECTION

B3/00170/c  
05/12/87

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3612 Seventh Street • Riverside, California 92501  
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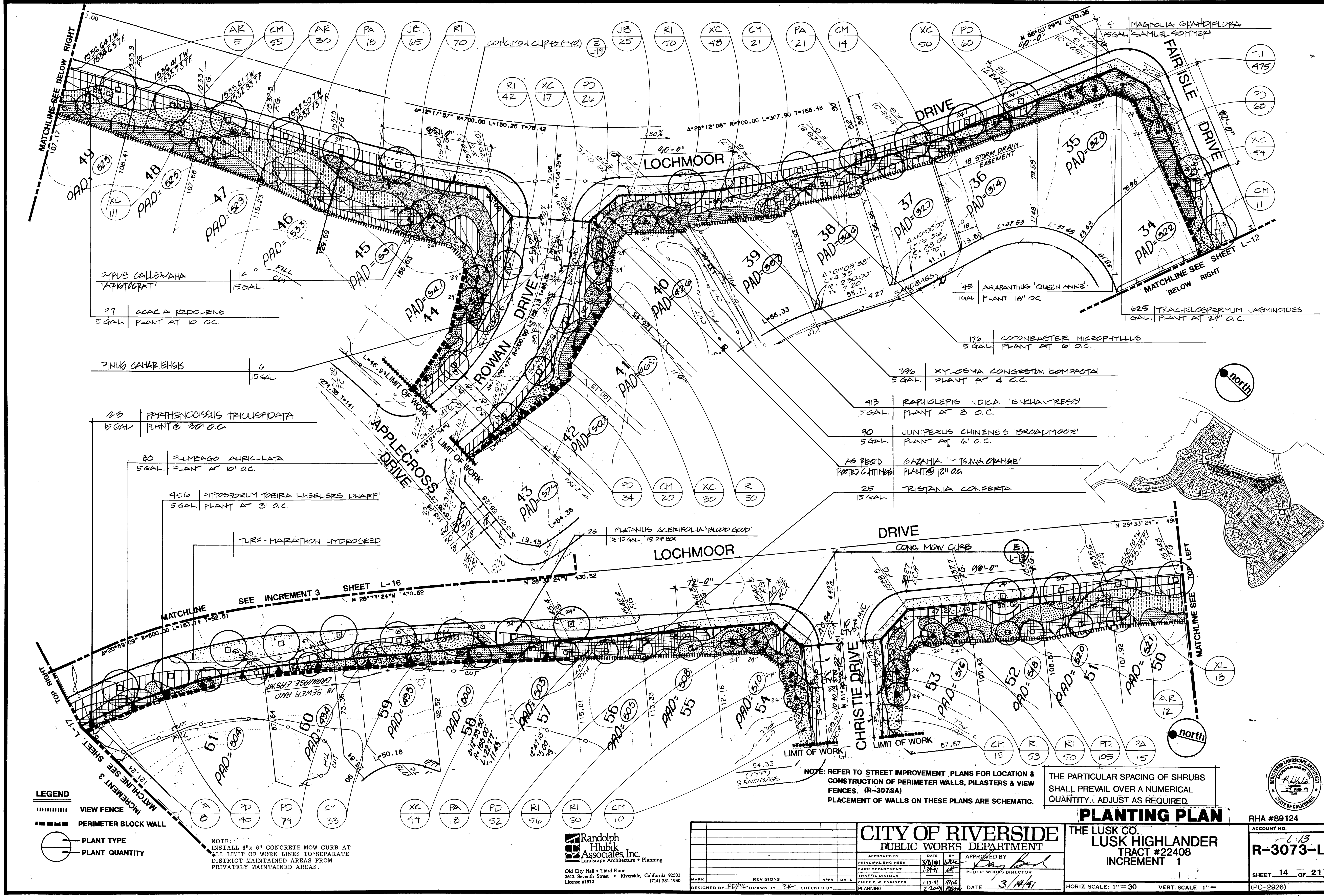
CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT				THE LUSK CO. LUSK HIGHLANDER TRACT # 22408 INCREMENTS 1.2 & 3		ACCOUNT NO. 2-11 R-3073-L SHEET 12 OF 21 (PC-2926)
APPROVED BY PRINCIPAL ENGINEER PARK DEPARTMENT TRAFFIC DIVISION CHIEF P. W. ENGINEER PLANNING	DATE 3/8/91 12/91 3-13-91 2-20-91	BY [Signature] [Signature] [Signature] [Signature]	APPROVED BY PUBLIC WORKS DIRECTOR	DATE 3/14/91	HORIZ. SCALE: 1" =	VERT. SCALE: 1" =
DESIGNED BY	DRAWN BY	CHECKED BY				

INDEXED 5-3-91 f4









**LEGEND**

- VIEW FENCE
- PERIMETER BLOCK WALL
- PLANT TYPE
- PLANT QUANTITY

NOTE: INSTALL 6"x6" CONCRETE MOW CURB AT ALL LIMIT OF WORK LINES TO SEPARATE DISTRICT MAINTAINED AREAS FROM PRIVATELY MAINTAINED AREAS.

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**CITY OF RIVERSIDE**  
**PUBLIC WORKS DEPARTMENT**

APPROVED BY: *[Signature]* DATE: 3/14/91  
PRINCIPAL ENGINEER: 3/14/91  
PARK DEPARTMENT: 1/24/91  
TRAFFIC DIVISION: 3/13/91  
CHIEF P.W. ENGINEER: 2/22/91

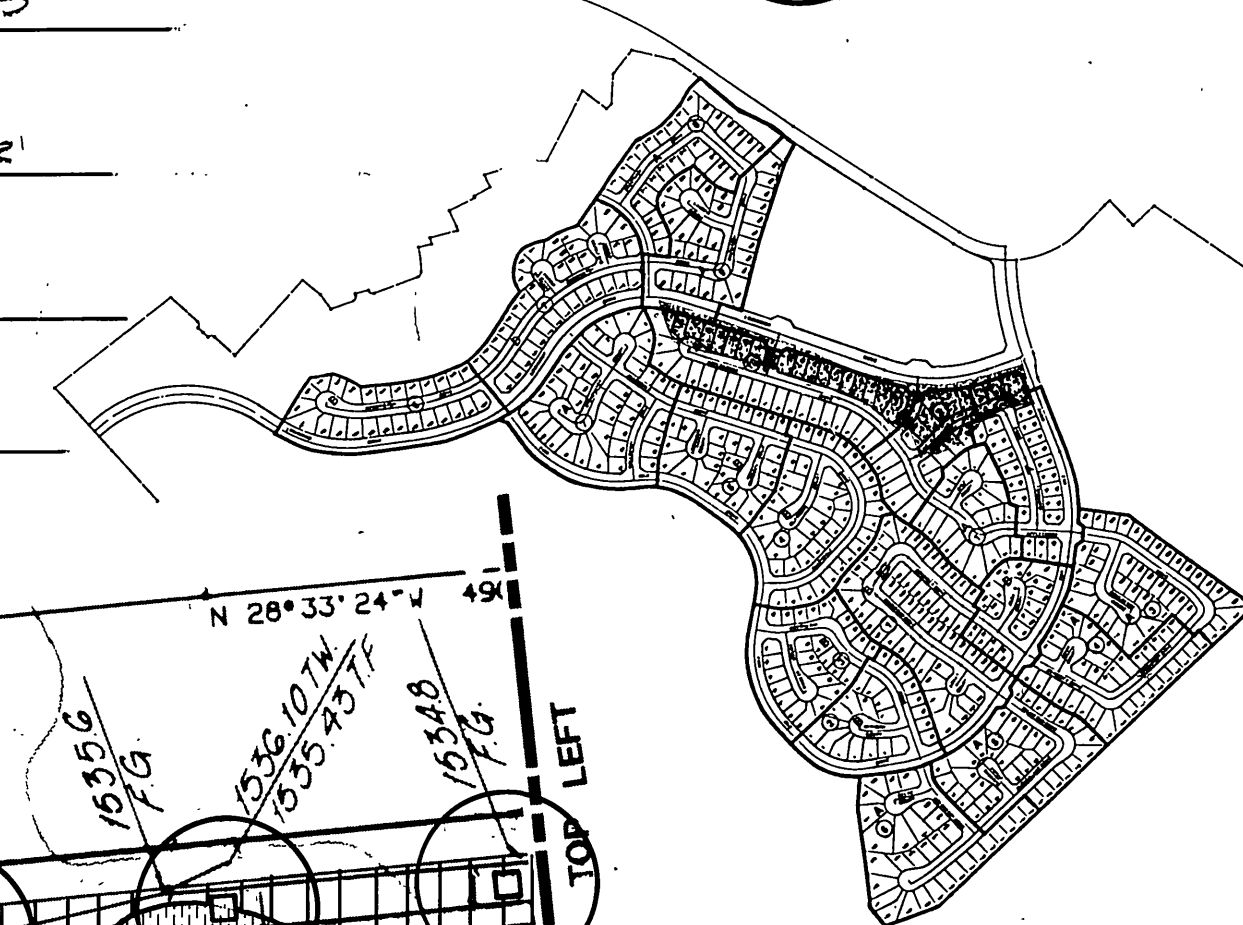
DESIGNED BY: *[Signature]* DRAWN BY: *[Signature]* CHECKED BY: *[Signature]*

**PLANTING PLAN**

THE LUSK CO.  
LUSK HIGHLANDER  
TRACT #22408  
INCREMENT 1

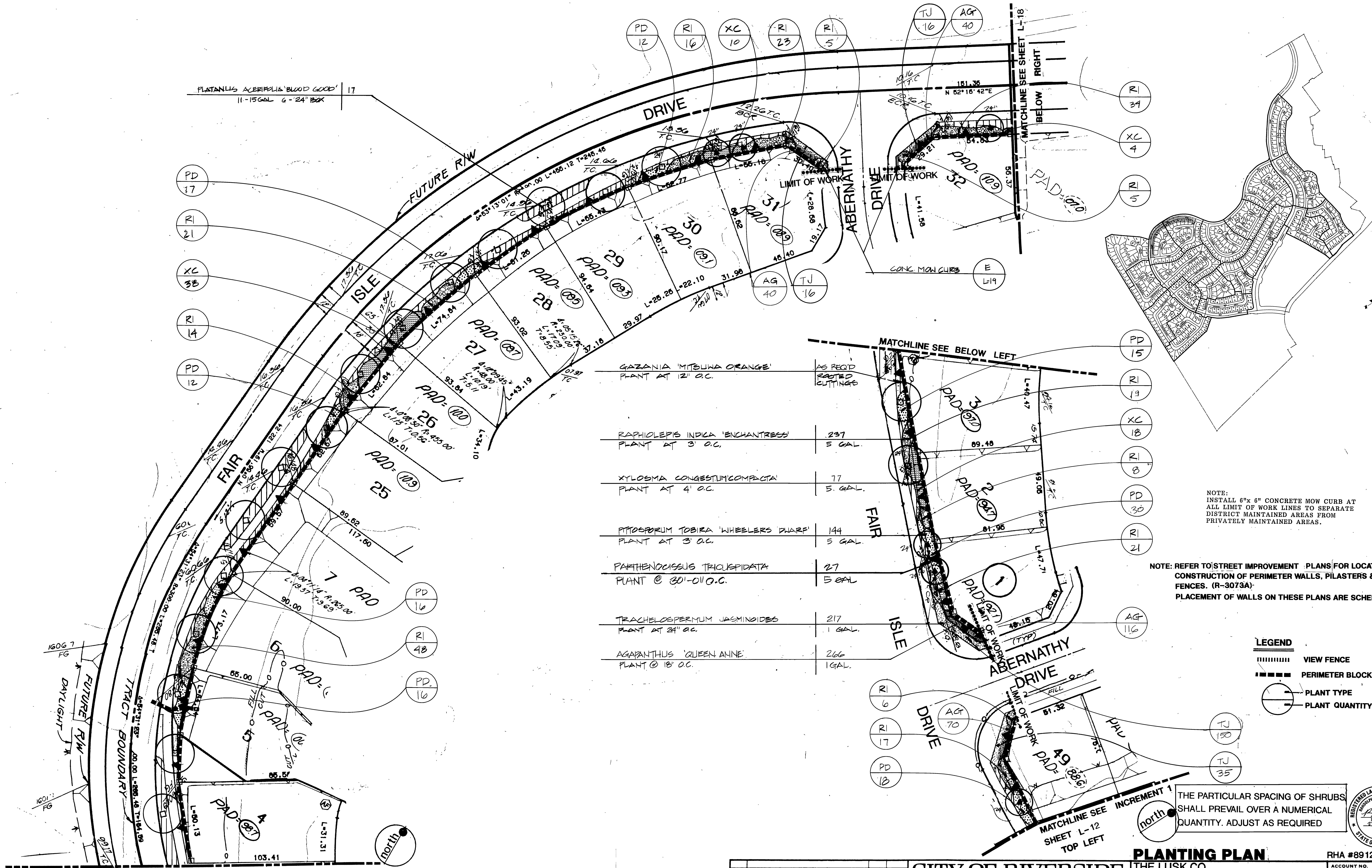
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RHA #89124  
ACCOUNT NO.  
**R-3073-L**  
SHEET 14 OF 21  
(PC-2826)



INDEXED 5-3-91





NOTE:  
INSTALL 6"x 6" CONCRETE MOW CURB AT  
ALL LIMIT OF WORK LINES TO SEPARATE  
DISTRICT MAINTAINED AREAS FROM  
PRIVATELY MAINTAINED AREAS.

NOTE: REFER TO STREET IMPROVEMENT PLANS FOR LOCATION &  
CONSTRUCTION OF PERIMETER WALLS, PILASTERS & VIEW  
FENCES. (R-3073A)  
PLACEMENT OF WALLS ON THESE PLANS ARE SCHEMATIC.

- LEGEND**
- VIEW FENCE
  - PERIMETER BLOCK WALL
  - PLANT TYPE
  - PLANT QUANTITY

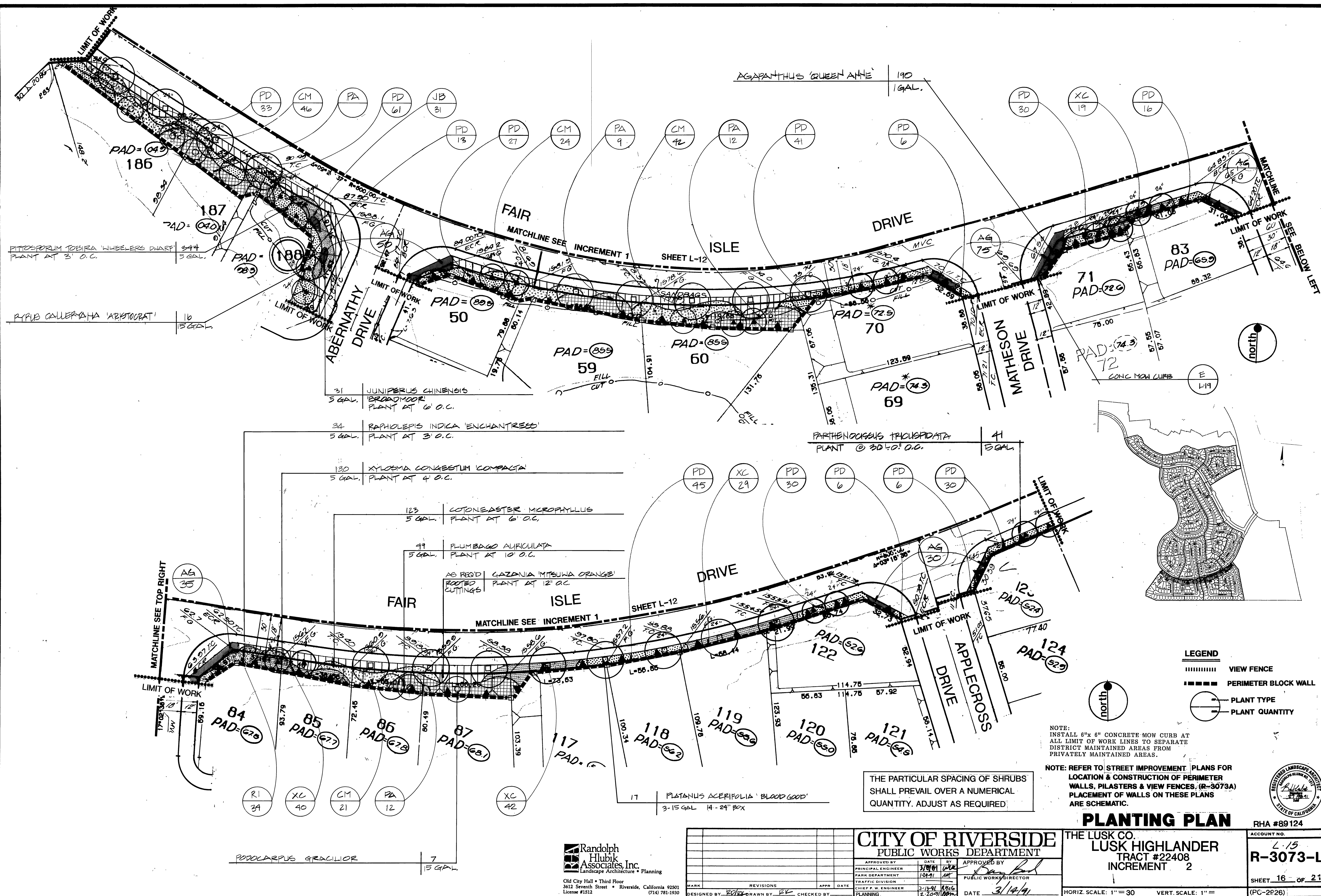
THE PARTICULAR SPACING OF SHRUBS  
SHALL PREVAIL OVER A NUMERICAL  
QUANTITY. ADJUST AS REQUIRED

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<b>CITY OF RIVERSIDE</b> PUBLIC WORKS DEPARTMENT				<b>PLANTING PLAN</b> THE LUSK CO. LUSK HIGHLANDER TRACT #22408 INCREMENT 2 PLANTING PLAN		RHA #89124 ACCOUNT NO. L-12 R-3073-L SHEET 15 OF 21 (PC-2926)
APPROVED BY	DATE	BY	APPROVED BY	DATE	BY	
PRINCIPAL ENGINEER	3/19/91	WLL	PUBLIC WORKS DIRECTOR	3/19/91	WLL	
PARK DEPARTMENT						
TRAFFIC DIVISION						
CHIEF P. W. ENGINEER						
PLANNING						
DESIGNED BY	REVISIONS	APPR	DATE	CHECKED BY	DATE	
WLL						

INDEXED 5-3-91 LHM





**LEGEND**

- VIEW FENCE
- PERIMETER BLOCK WALL
- PLANT TYPE
- PLANT QUANTITY

NOTE: INSTALL 6"x 6" CONCRETE MOW CURB AT ALL LIMIT OF WORK LINES TO SEPARATE DISTRICT MAINTAINED AREAS FROM PRIVATELY MAINTAINED AREAS.

NOTE: REFER TO STREET IMPROVEMENT PLANS FOR LOCATION & CONSTRUCTION OF PERIMETER WALLS, PILASTERS & VIEW FENCES. (R-3073A) PLACEMENT OF WALLS ON THESE PLANS ARE SCHEMATIC.

THE PARTICULAR SPACING OF SHRUBS SHALL PREVAIL OVER A NUMERICAL QUANTITY. ADJUST AS REQUIRED

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MARK	REVISIONS	APPR	DATE

**CITY OF RIVERSIDE**  
PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER	3/14/91	WHL
PARK DEPARTMENT	1/24/91	AM
TRAFFIC DIVISION	3-14-91	AM
CHIEF P. W. ENGINEER	3-14-91	AM
PLANNING	2-20-91	AM

DESIGNED BY: *WHL* DRAWN BY: *WHL* CHECKED BY: *WHL*

**PLANTING PLAN**

THE LUSK CO.  
LUSK HIGHLANDER  
TRACT #22408  
INCREMENT 2

ACCOUNT NO. **R-3073-L**  
SHEET 16 OF 21  
(PG-2026)

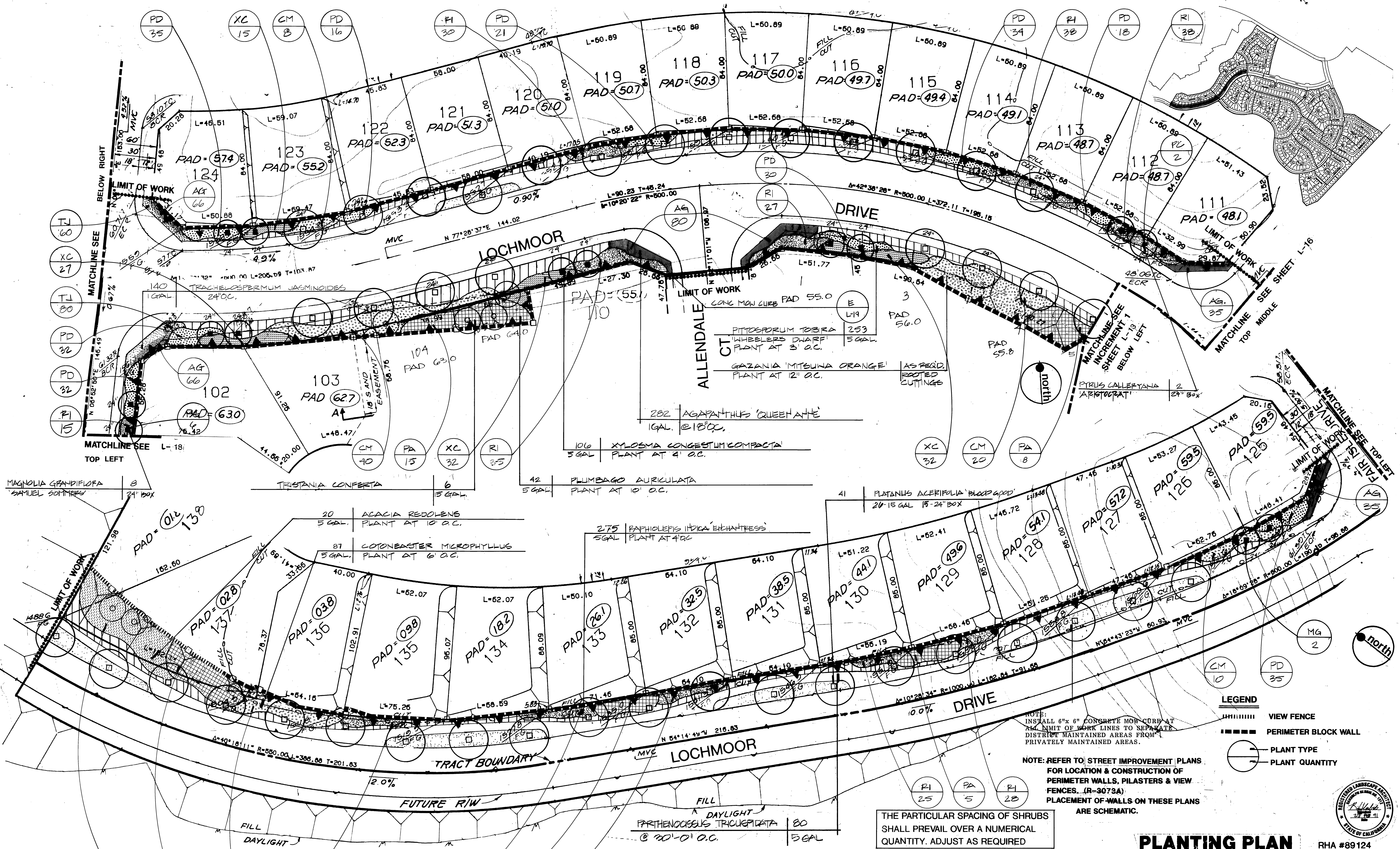
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INDEXED 5-3-91 LPH









- LEGEND**
- VIEW FENCE
  - PERIMETER BLOCK WALL
  - PLANT TYPE
  - PLANT QUANTITY

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# PLANTING PLAN

THE LUSK CO.  
LUSK HIGHLANDER  
TRACT #22408  
INCREMENT 3

ACCOUNT NO. **L 17**  
**R-3073-L**  
SHEET **18** OF **21**  
(PC-2926)

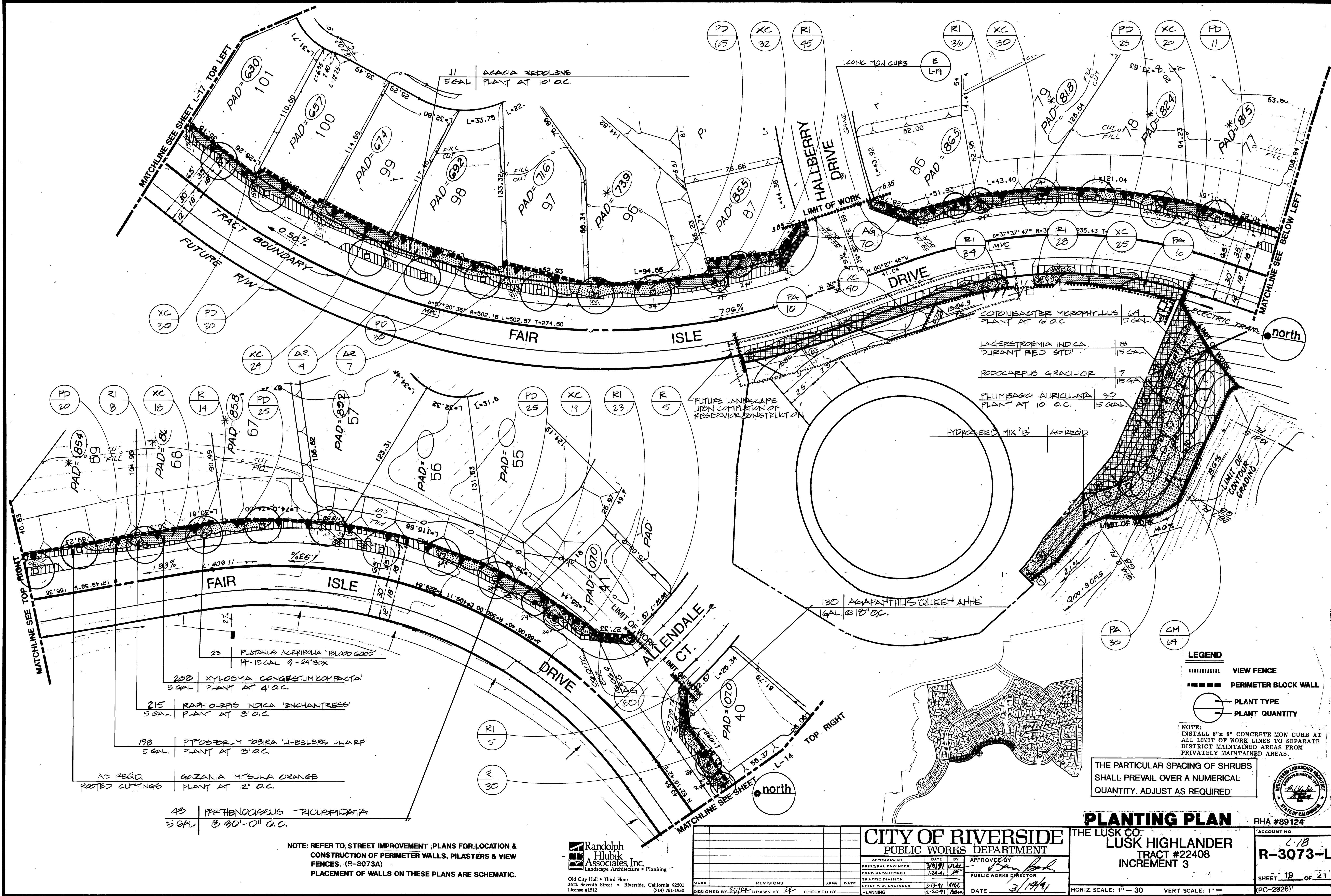
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## CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT

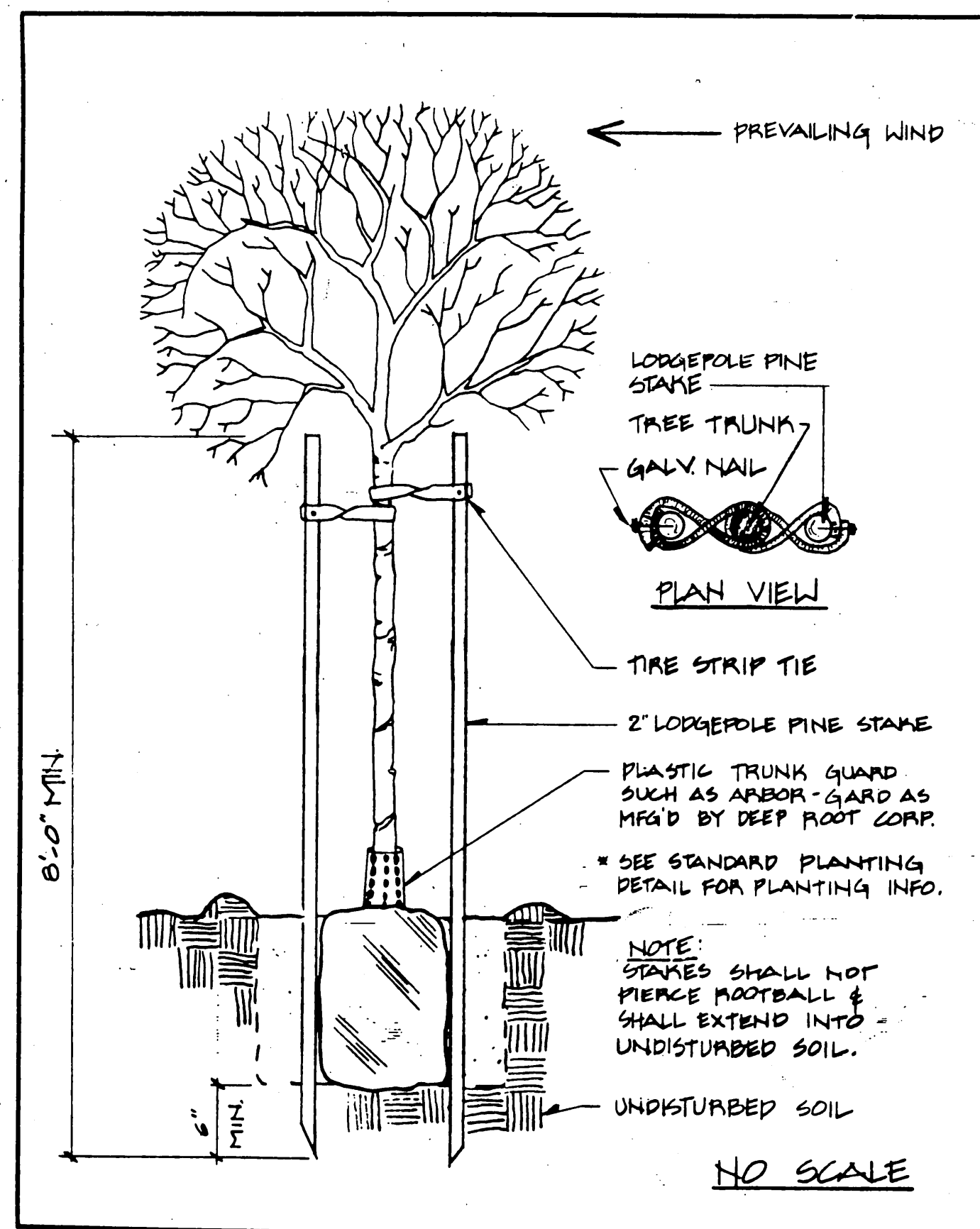
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TRAFFIC DIVISION	3/13/91	RND
CHIEF P.W. ENGINEER	2-20-91	PLAN
PLANNING		

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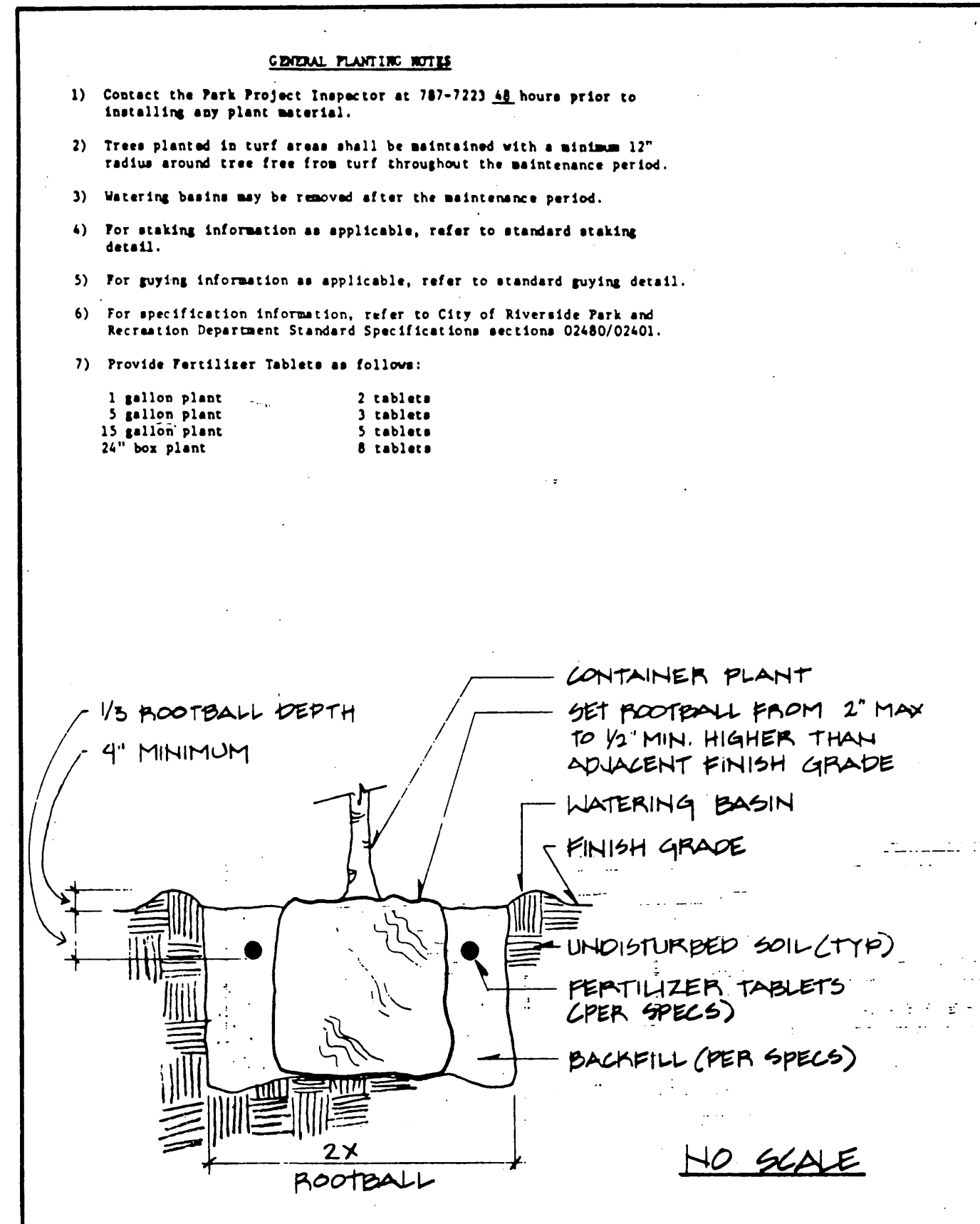




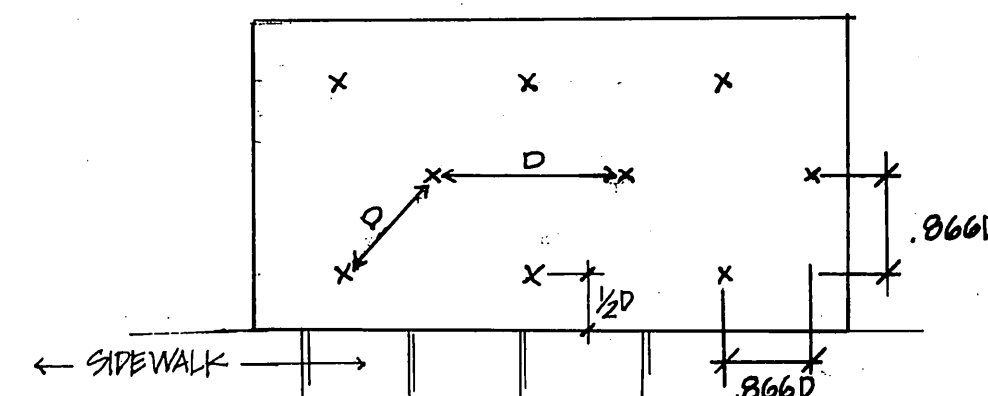




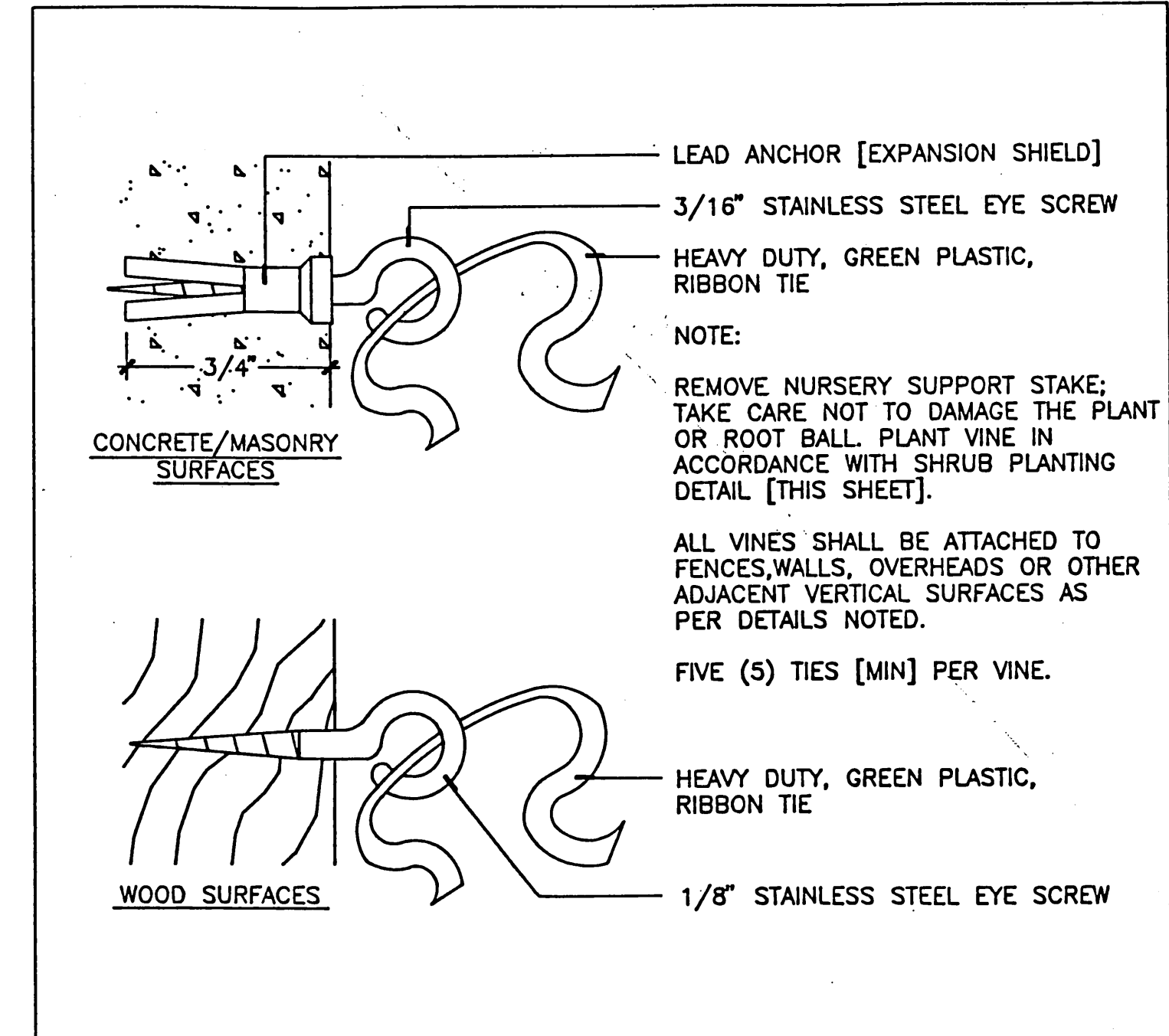
**A TREE DETAIL**



**B PLANTING DETAIL**



**C SHRUB DETAIL**



**D VINE TIES**

**H SHRUB SPACING DETAIL**

BOTANICAL NAME	SIZE	DETAIL REFERENCE	REMARKS
<b>TREES:</b>			
PINUS CANADENSIS	15 GAL.	A, B	MIN. HT. 7'-0" x MIN. WIDTH 2'-3" 1-1/2"
LAGERSTROEMIA INDICA 'DURANT RED STD'	15 GAL.	A, B	7'-8" x 2'-3" 1-1/2"
PLATANUS ACERIFOLIA 'BLOODGOOD'	15 GAL.	A, B	7'-9" x 2'-3" 1-1/2"
PODOCARPUS GRACILIOR STD	15 GAL.	A, B	7'-8" x 2'-3" 1-1/2"
PYRUS CALLERYANA 'ARISTOCRAT'	15 GAL.	A, B	7'-8" x 2'-3" 1/2-2"
MAGNOLIA GRANDIFLORA 'SAMUEL SOMMERS'	24 BOX	A, B	7'-8" x 4'-5" 3/4-2"
TRISTANIA CONFERTA	15 GAL.	A, B	7'-8" x 2'-3" 1-1/2"
<b>SHRUBS:</b>			
ACACIA REDOLENS	5 GAL.	C	FULL & BUSHY PLANT 10' O.C.
PLUMBAGO AURICULATA	5 GAL.	C	10' O.C.
PITHECOPHILA TOBIRA 'WHEELERS DWARF'	5 GAL.	C	3' O.C.
RAPHIOLEPS INDICA 'ENCHANTRESS'	5 GAL.	C	3' O.C.
XYLOSMA CONGESTUM COMPACTA	5 GAL.	C	4' O.C.
COTONEASTER MYCROPHYLLUS	5 GAL.	C	6' O.C.
JUNIPERUS CHINENSIS 'BROADMOOR'	5 GAL.	C	6' O.C.
AGAPANTHUS 'QUEEN ANNE'			
<b>GROUND COVER:</b>			
TRACHELOSPERMUM JASMINOIDES	1 GAL.		2' O.C. TRI-SPACE
GAZANIA 'MITSUNA ORANGE'	ROOTED CUT.		12' O.C. TRI-SPACE
TURF - MARATHON	HYDROSEED		APPLY @ 12 LBS./1000 SF. - SEE SPECS
HYDROSEED MIX 'A'		F	HYDROSEED NOTE - SHEET L-20 APPLY TO PLANTING AREAS UNDER SHRUB MASSES
HYDROSEED MIX 'B'		G	APPLY TO GRADED SLOPE SOUTH OF RESERVOIR

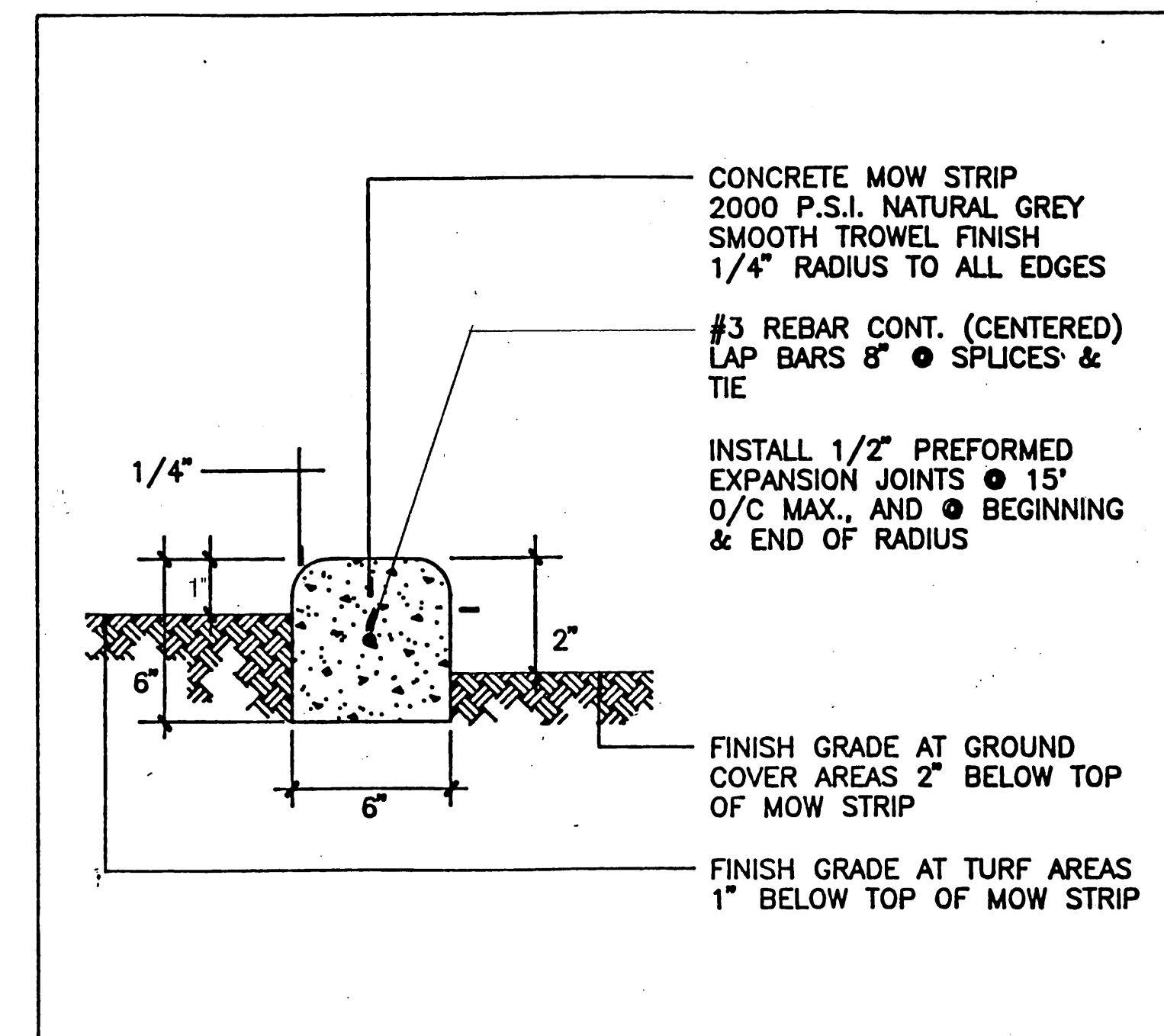
**PLANTING LEGEND**

Minimum % Pur/Germ	LBS./ACRE	SPECIES
90 50	4	Gazania 'Tangerine Dwarf'
95 80	2	Alyssum 'Carpet of Snow'
95 80	3	Alyssum 'Royal Carpet'
95 85	6	Lotus corniculatus 'Kalo'
95 50	2	Chrysanthemum mutabile
95 75	2	Helianthemum mutabile
19		Total pounds per acre

**F HYDROSEED MIX 'A'**

Lasthenia chrysostoma	3 LBS. PER ACRE	8%
Eriophyllum confertiflorum	6 LBS. "	14%
Encelia farinosa	4 LBS. "	10%
Eschscholzia californica	3 LBS. "	4%
Lupinus succulentus	5 LBS. "	4%
Eriogonum fasciculatum	8 LBS. "	20%
Salvia apiana	6 LBS. "	20%
Zorro Fescue	5 LBS. "	20%

**G HYDROSEED MIX 'B'**



**E CONC. MOW CURB**

<b>CITY OF RIVERSIDE</b> <b>PUBLIC WORKS DEPARTMENT</b>				<b>THE LUSK CO.</b> <b>LUSK HIGHLANDER</b> <b>TRACT #22408</b> <b>INCREMENTS 1,2&amp;3</b>		<b>ACCOUNT NO.</b> <b>L-19</b> <b>R-3073-L</b>	
<b>APPROVED BY</b> <b>DATE</b> <b>BY</b>		<b>APPROVED BY</b> <b>DATE</b> <b>BY</b>		<b>DATE</b> <b>3/14/91</b>		<b>SHEET</b> <b>20</b> <b>of</b> <b>21</b>	
<b>DESIGNED BY</b> <b>RD</b>		<b>DRAWN BY</b> <b>ELP</b>		<b>CHECKED BY</b> <b>PLANNING</b>		<b>HORIZ. SCALE:</b> <b>N.A.</b> <b>VERT. SCALE:</b> <b>N.A.</b>	



# SECTION 02480 - PLANTING

## PART 1 - GENERAL

### 1.01 RELATED DOCUMENTS:

The provisions of the "Standard Specifications for Public Works Construction" shall apply except as modified herein.

### 1.02 SCOPE:

The work required is indicated on the drawings and includes, but is not necessarily limited to: soil preparation; finish grading (as distinguished from fine grading per Section 02210); planting trees; grading and staking trees; planting shrubs and groundcover; hydroseeding; turf; soil erosion control; maintenance; plant establishment; guarantees; and replacements.

### 1.03 SOILS TEST:

The Contractor shall notify the Park Projects Inspector upon completion of fine grading and prior to commencement of soil preparation work. The City will obtain agronomic soils tests for all planting areas after completion of fine grading and prior to start of soil preparation work. Tests will be performed by an approved agronomic soils testing laboratory and will include a fertility and suitability analysis with written recommendations for soil preparation, planting backfill mix, silt hole requirements, and post plant fertilization program. The soils report recommendations shall take precedence over the minimum amendment and fertilizer application rates specified herein only when they exceed the specified minimums. Contractor shall allow a minimum two week period for the soils testing work commencing upon acceptance of the fine grading work per Section 02210 by the Park Projects Inspector.

### 1.04 GUARANTEE:

- All trees installed under the contract shall be guaranteed against any and all poor, inadequate or inferior materials and/or workmanship for a period of one (1) year following final acceptance.
- During the guarantee period, any material found to be dead, missing, or in poor condition shall be replaced by the contractor within ten (10) days of written notification. Park and Recreation Department shall be the sole judge as to the condition of the material.
- Replacement shall be made in accordance with City standards.
- Material and labor involved in replacing plant material shall be provided by the contractor at no additional cost to the City.

PG. 1

## 1.05 INSPECTIONS:

Inspections will be required. The Contractor shall contact the Park Projects Inspector at least 48 hours (2 working days) in advance of an anticipated inspection. An inspection will be required at each of the steps listed below:

- Upon completion of fine grading and prior to commencement of soil preparation, for acceptance of fine grading work and taking of soils samples.
- Inspection of completed finish grading work following soil amendment work.
- When container plants and/or bare root stock are spotted for planting, but before planting holes are excavated.
- When planting and all other indicated or specified work has been completed.
- During application of pre-emergent chemical.
- At start of plant establishment period.
- At end of the plant establishment period, prior to final acceptance of the project for maintenance by the City. This acceptance for maintenance will be confirmed in writing by the Park and Recreation Department.

## 1.06 SUBMITTALS:

- The following written certifications are required to be submitted to the Park Projects Inspector upon delivery of the respective materials to the job site:
  - Total Quantity of commercial fertilizers, by type
  - Total Quantity of soil amendments and conditioners, by type
  - Total Quantity of seed, by type
  - Total Quantity of mulch
  - Total Quantity of iron sulphate

## 1.07 PLANT ESTABLISHMENT PERIOD:

The length of the Plant Establishment Period shall be as specified in Section 6-7.4 of the Special Provisions; see also Subsection 3.08 of this section regarding start of plant establishment period.

## PART 2 - MATERIALS

### 2.01 GENERAL:

All materials shall conform with Section 212 of the Standard Specifications except as modified herein.

PG. 2

## 2.07 HEADERS, STAKES AND TIES:

- Add the following to Standard Specifications Section 212-1.5.3:

(1) Tree stakes shall be straight-grained lodgepole pine, or City approved equal. Stakes shall be free from knots, checks, splits, or disfigurements.

(2) Tree ties shall be made from tire casing, 22" long by 3/4" wide, fastened to tree stake with two galvanized 5d roofing nails each.

- Add the following new section to Standard Specifications Section 212-1.5(d), Concrete Curing - Concrete shall be 5 sack mix with a maximum slump test of four inches (4"). Provide specified concrete forming and stakes (maximum 3' o.c.) to provide continuous line without waving.

## 2.08 JUTE NETTING:

Jute netting shall be new and shall be of uniform, plain-weave, flame-retardant mesh. The mesh shall be dyed green and shall be made from unbleached single jute yarn. The yarn shall be of loosely twisted construction and shall not vary in thickness by more than one-half its normal diameter. Jute netting shall be furnished in rolled strips and shall meet the following requirements:

- Width - 48 inches, with a tolerance of one inch wider or narrower.
- Minimum 78 warp ends per width of roll.
- Minimum 41 weft ends per width of length.
- Weight shall average 1.22 pounds per linear yard, with a tolerance of 5 percent heavier or lighter.

## PART 3 - EXECUTION

### 3.01 GENERAL:

- All work shall conform with Section 308 of the Standard Specification, except as modified herein.

### 3.02 WEED CONTROL MEASURES:

Add the following to Standard Specifications Section 308-2.4:

- Upon completion of all fine grading work per Section 02210 Grading, and prior to soil preparation, perform weed control measures as follows:

- Irrigate all areas designated to be planted for a minimum of 10 minutes per setting, two settings per day for seven days to germinate all weed seed possible.

PG. 6

## 3.10 MAINTENANCE:

Amend the Standard Specifications Section 308-6 to read: All areas within the work limits of this contract shall be maintained by the contractor for the duration of the contract until final acceptance.

## 3.11 START OF PLANT ESTABLISHMENT:

Add the following to Standard Specifications Section 308-6:

- Criteria for Start of Plant Establishment Period:

- The plant establishment period shall not start until all elements of the project that impact the landscape are completed in accordance with the contract documents. Projects will not be sequenced into phases.
- Permanent power to remote controllers shall be established.
- The plant establishment period for the project shall not begin until after the first mowing of the newly planted turf areas. New turf shall not be mowed until attaining a minimum height of 2 inches. All turf shall be maintained at a mowing height of 1-1/2 inches.
- Written acceptance of the City must be obtained to start the plant establishment period.
- If the project maintenance fails to continuously meet standards required, the plant establishment period "day count" will be suspended and will not recommence until the Contractor has corrected all deficiencies.

## 3.12 MAINTENANCE TASKS:

Add the following to Standard Specifications Section 308-6:

- General:

During the contract period provide all watering, weeding, mowing, fertilizing and corrective and spraying necessary to keep the plants and turf in a healthy growing condition and to keep the planted areas neat, edged, and attractive. All shrubs planted by the contractor shall be planted and pruned as necessary to encourage new growth and to eliminate rank growth. Old wiled flowers and dead foliage shall be immediately pruned or cut off. Do not prune trees without written approval of the City.

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## B. Iron Chlorosis:

After planting and during the plant establishment period, in the event that any plantings exhibit iron chlorosis symptoms, apply FE 130 Gely or equivalent at manufacturer's recommended rates.

## C. Replacement Plantings:

During the plant establishment period, should the appearance of any planting installed by the Contractor indicate weakness, that plant shall be replaced immediately with a new, healthy plant. At the end of the plant establishment period, all plant materials shall be in a healthy, growing condition and spaced as indicated on the plans.

## D. Fertilization:

The Contractor shall apply commercial fertilizer to all turf areas at a rate of 10 pounds per 1,000 square feet, and all groundcover areas at a rate of 5 pounds per 1,000 square feet, at 30-day intervals, for 3 applications as a minimum, above and beyond the original soil preparation application.

## E. Planting Establishment:

All planting areas that do not show a prompt establishment of plant material shall be replanted at 10-day intervals until the plant material is established. If a good rate of growth has not been demonstrated within 30 days of first planting/hydroseeding, the Contractor shall be responsible to determine the appropriate horticultural practices necessary to obtain good growth. The Contractor shall obtain agronomic soils testing of all areas not showing good growth and shall provide copies of the test results to the City to verify the appropriateness of all maintenance work performed. If additional soil amendments are needed, up to a maximum 25% beyond the application rate specified, such amendments shall be provided by the Contractor at no additional cost to the City.

## F. Grading and Drainage:

During the plant establishment period all flow lines shall be maintained to allow for free flow of surface water. Displaced material which interferes with drainage shall be removed and placed as directed. Low spots and pockets shall be graded to drain properly. Jute netting shall be installed at flow lines and other locations where erosion is evident, when directed by the Park Projects Inspector.

- Damage to planting areas shall be repaired immediately and throughout the plant establishment period. Depressions caused by vehicles, bicycles, or foot traffic shall be filled and leveled. Replant damaged areas.

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## 2.02 FERTILIZER, SOIL AMENDMENTS AND CONDITIONS:

Add the following to Standard Specifications Section 212-1.2.3:

- Planting Tablets: Tightly compressed long-lasting, slow-release fertilizer tablets weighing 21 grams, with a potential acidity of not more than 5 percent by weight and having an analysis of 20-10-5 derived from the sources listed in the following guaranteed analysis:

### GUARANTEED ANALYSIS

Total Nitrogen (N)	20%
Derived from urea formaldehyde	
7.0% water soluble nitrogen	
13.0% water insoluble nitrogen	
Available Phosphoric Acid (P <sub>2</sub> O <sub>5</sub> )	10%
Derived from calcium phosphate	
Soluble Potash (K <sub>2</sub> O)	5%
Combined Calcium (Ca)	2.6%
Derived from calcium phosphates	
Combined Sulfur (S)	1.6%
Derived from ferrous and potassium sulfates	
Iron (expressed as elemental Fe)	35%
Derived from ferrous sulfate	

- Commercial fertilizer shall bear the manufacturer's guaranteed statement of analysis and shall meet the following minimum requirements: 18% nitrogen, 6% phosphoric acid, and 8% potash.
- Organic Soil Amendment: Shall be type 1 organic soil amendment, wood based product, nitrogen stabilized.
- Soil Conditioners: Add to Standard Specifications, new Section 212-1.2.4: Inorganic conditioners shall be agricultural grade gypsum, soil sulfur and iron sulfate. Iron sulfate shall be ferric sulphate or ferrous sulphate in pellet or granular form containing not less than 18.2% iron, expressed as metallic iron, and shall be registered as an agricultural mineral with the State Department of Agriculture in compliance with Article 2 "Fertilizing Materials", Section 1030 of the Agriculture Code.

PG. 3

All landscape areas shall be finish graded, (as distinguished from fine grading specified in Section 02210) to "dress out", maintain, and/or re-establish finish grades and flow lines as approved prior to amending the soil. Contractor shall call for inspection upon completion of finish grading work. Contractor shall not proceed with planting work until finish grades have been inspected and accepted by the Park Projects Inspector.

## 3.05 EROSION CONTROL:

Add new section to the Standard Specifications: 308-4.6(f) Jute Netting:

All slopes areas exceeding 3:1 shall receive jute netting. Netting shall also be provided during the maintenance period, when and as directed by the Park Projects Inspector, along flow lines and other locations where erosion is evident. Jute netting shall be installed loosely, up and down the slope. The installed netting shall fit the soil surface contour and shall be held in place by 9-inch long, 11-gauge (minimum) steel wire staples driven vertically into the soil at approximately 24-inch intervals. Jute netting strips shall overlap along the slope at least 6 inches. Ends of strips shall be buried into the soil at least 6 inches. Lap all ends of rolls a minimum of 24".

## 3.06 PLANTING:

- Amend the Standard Specifications Section 308-4.5 to coordinate with Section 21.06 herein for specified backfill mix.
- Add the following to the Standard Specification Section 308-4.5:

- Soil surrounding planting pit shall be in a friable condition and moist to a depth of 8".
- Backfill using specified soil mix to within 8" of finish grade. At this depth, place the plant fertilizer tablets Agriform 20-0-5, 21 grams each, or City approved equal. A minimum of 1 tablet for 1 gallon, 3 tablets for 5 gallons, 5 tablets for 15 gallons, and 8 tablets for a 24" box. Complete backfilling to finish grade.
- Trees (other than relocated palms) shall be planted at such a depth that the crown roots bear the same relative position to finish grade as they did to the soils where they were grown. Backfill after planting shall be compacted carefully into place without injuring the roots of the tree or breaking up the ball of earth surrounding the roots.

- Add the following to Standard Specifications Section 308-4.7:

- On slopes exceeding 3:1 ratio, apply 5 gram Agriform tablets, one per plant in lieu of soil preparation work.

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## 2.03 SEED:

Add the following to Standard Specifications Section 212-1.3:

Turf Seed Mix	Proportion by weight	Purity Germination
MARATHON	100%	97% 90%

~~Notes for applications in May through September use Turf Seed Mix~~  
Seeding rate: 622 pounds per acre (12 pounds per 1,000 square feet)

## 2.04 HYDROSEEDING MATERIALS:

Add the following to Standard Specifications Section 212-1.3:

Mater: All water used shall be potable domestic water as drawn from the City pressure main. See General Provisions section 7-8.5 regarding temporary construction water and charges for water drawn from City fire hydrants.

Seed: Turf seed mix as specified.

Mulch: Fiber shall be produced from cellulose such as wood pulp or similar organic material and shall be of such character that it will disperse into a uniform slurry when mixed with water. The fiber shall be of such character that when used in the applied mixture, an absorptive or porous mat, but not a membrane, will result on the surface of the ground. Materials which inhibit germination or growth shall not be present in the mixture.

Binding Agent: Dry powder organic concentrate, Ecology Controls M-Binder or equal, as available from Robinson Fertilizer Company 114538-5375.

## Fertilizers:

- 10-12 (%iron) resin coated prills, Agriform, or City approved equal.
- Single super phosphate 0-18-0.

## 2.05 PLANTS:

- Add the following to Standard Specifications Section 212-1.4.1:

All plants shall be true to name, and one of each bundle or lot shall be tagged with the name and size of plants in accordance with the standards of practice recommended by the American Association of Nurserymen. The root condition of plants furnished in containers shall be determined by removal of earth from the roots of not less than two plants nor more than 2% of the total number of plants of each species or variety except when container-grown plants are from several different sources; in which case, the roots of not less than two plants of each species or variety from each source shall be checked by the Park Projects Inspector at his option. The selection of plants to be checked will be made by the Park Projects Inspector.

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- Mulch and fertilize groundcover areas using 1.5 cubic yards of wood shavings and 5 lbs. of the specified commercial fertilizer per 1,000 square feet. Repeat fertilization at 30 day intervals throughout the duration of the contract up to 4 applications, after which decrease frequency to once every 90 days.

- All groundcover and bare dirt areas are to be treated with a pre-emergent chemical (subject to approval by the Park Inspector prior to application). Chemicals are to be applied by a licensed Pest Control Agent. This treatment shall be applied at the following times during the contract: a) before planting, b) at beginning of plant establishment period, and c) at end of plant establishment period. The Park Projects Inspector, (16) 782-5223, shall be given a minimum of 48 hours (2 working days) notice prior to each application. No chemicals shall be applied other than in the presence of the Inspector.

## 3.07 TREE STAKING:

Amend the Standard Specifications Section 308-4.6.1 and 308-4.6.2 to read: Stake trees per Park and Recreation Department standard detail.

## 3.08 TURF PLANTING:

Add the following to Standard Specifications Section 308-4.8.2, b:

Mixing of hydroseed slurry. Mixing shall be performed in a tank, with a built-in continuous agitation and recirculation system of sufficient operating capacity to produce a homogeneous slurry of fiber, M-Binder, seed, fertilizer and water in the designated unit proportions.

Fiber	1,000 lbs./acre
Fertilizers:	
WPK	870 lbs./acre
Single superphosphate	200 lb./acre
Seed	as specified in Section 2.03
M-Binder	100 lbs./acre on slopes exceeding 5:1
Water	3,000 gal./acre
Agricultural Grade Gypsum	500 lb./acre

With agitation system operating at part speed, water shall be added to the tank, good recirculation shall be established. Materials shall be added in such a manner that they are uniformly blended into the mixture in the following sequence:

Non tank is 1/3 filled with water:

- Add binding agent - 1/2 acre requirement.
- Add 3 - 50 pound bales of fiber.
- Add seed - 1/2 acre requirement.
- Add fertilizer - 1/2 acre requirement.

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each species or variety except when container-grown plants are from several different sources; in which case, the roots of not less than two plants of each species or variety from each source shall be checked by the Park Projects Inspector at his option. The selection of plants to be checked will be made by the Park Projects Inspector.

All plants rendered unsuitable for planting shall be considered as samples, and replacements shall be provided at no additional cost. In case the sample plants are found to be defective, the entire lot or lots of plants represented by the defective samples will be rejected.

- Amend the Standard Specifications Section 212-1.4.2 and 212-1.4.3: All trees and shrubs supplied by contractor shall be of the specified standard height and diameter set by the American Standard for Nursery Stock. The height of the trees shall be measured from the root crown to the last division of the terminal leader and the diameter shall be measured six (6) inches above the crown roots. The trees shall stand erect without support.

- Add to Standard Specifications, new Section 212-1.4.6: Noted cuttings will also be acceptable.

- Bare root stock shall conform to the American Nurseryman's Association standards. Minimum caliper shall be two (2) inch diameter and minimum height shall be twelve (12) feet.

## 2.06 BACKFILL MATERIAL

Add the following to the Standard Specifications Section 212:

- Top soil shall be free of noxious weed seed and shall be of a loam characteristic, fertile and friable.
- Wood shavings shall be leached nitrogen fortified and shall be free of foreign matter.
- Soil used for backfill of planting pits for container plants shall be enriched using the following blend per cubic yard (agronomic soil test recommendations to be reviewed prior to soil mixing):  
60% site soil  
40% wood shavings  
2 lbs. gypsum  
2 lbs. commercial fertilizer

Bare root stock backfill shall consist of 10% wood shavings and 90% site soil with fertilizer and soil conditioners as specified for container plants.

- All soil backfill shall be bulk mixed, not individually mixed at each plant pit.

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Agitate mixture at full speed when the tank is half-filled with water.

Add remainder fiber requirement, 7 bales before tank is 3/4 full. Add remainder fertilizers, seed and gypsum. Slurry distribution should begin immediately.

Area to be hydroseeded shall be moistened to a depth of six inches just prior to application.

Application: Hydroseed slurry shall be applied under high pressure evenly and result in a uniform coat on all areas to be treated. Care shall be exercised to assure that plants in place are not subjected to the direct force of the application. Slurry shall be immediately removed from walks, structures, plants, etc., that are inadvertently sprayed.

All bare spots shall be reseeded by the Contractor within 10 days. The Contractor shall be responsible for all reseeded areas for as long after seeding as necessary until acceptable germination and establishment is realized and approved by the City.

The slurry shall not be sprayed on undesignated areas. Any slurry spilled or sprayed into areas other than those designated to receive spray shall be cleaned up at the Contractor's expense to the satisfaction of the City.

## 3.09 MATERIALS:

Add the following to Standard Specifications Section 308-4.9.5:

- It shall be the Contractor's responsibility to maintain a balanced watering program to ensure proper growth until final acceptance of the work.

- Immediately after planting, apply water to each plant. Apply water in a moderate stream in the planting hole until the material about the roots is completely saturated from the bottom of the hole to the top of the crown.

- Apply water in sufficient quantities and as often as seasonal conditions require to keep the planted areas moist at all times, well below the root system of plants.

- Irrigation:

(1) Contractor shall properly and completely maintain the irrigation system. A balanced water program shall be maintained to ensure proper germination and growth until final acceptance of the work. Plants which cannot be watered sufficiently with the irrigation system shall be watered by means of a hose.

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# SPECIFICATIONS

## THE LUSK CO. LUSK HIGHLANDER TRACT #22408 INCREMENTS 1,2 & 3

ACCOUNT NO. L 20  
R-3073-L  
SHEET 21 of 21  
(PC-2926)

# CITY OF RIVERSIDE

## PUBLIC WORKS DEPARTMENT

APPROVED BY	DATE	BY
PRINCIPAL ENGINEER	3/10/91	WJL
PARK DEPARTMENT	1-29-91	WJL
TRAFFIC DIVISION		
CHIEF P. W. ENGINEER	3-7-91	WJL
PLANNING	2-26-91	WJL

APPROVED BY  
PUBLIC WORKS DIRECTOR  
DATE 3/14/91

DESIGNED BY: ED  
DRAWN BY: RL  
CHECKED BY:

HORIZ. SCALE: 1" = VERT. SCALE: 1" =

INDEXED 5-3-91 WJL



CITY OF RIVERSIDE  
PARK AND RECREATION DEPARTMENT  
STANDARD SPECIFICATIONS

SECTION 02480-1 - STREET TREE PLANTING

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

The provisions of the "Standard Specifications for Public Works Construction", Current Edition, shall apply except as modified herein.

1.02 SCOPE

The work required is indicated on the drawings and includes, but is not necessarily limited to: planting trees; opening and staking trees; watering; pruning; and replacement. The plant quantities are approximate; the actual quantity of trees to be planted will be determined on-site by the inspector to conform with site constraints while providing a minimum of one tree per lot and an average spacing of 45' O.C., whichever results in the greater number of trees.

1.03 GUARANTEE

- All trees installed under the contract shall be guaranteed against any and all poor, inadequate or inferior materials and/or workmanship for a period of one (1) year. Guarantee period shall run concurrently with maintenance period.
- During the guarantee period, any material found to be dead, missing, or in poor condition, whether or not due to the fault of the contractor, shall be replaced by the contractor within ten (10) days of written notification. Park and Recreation Department shall be the sole judge as to the condition of the material.
- Replacement shall be made in accordance with City standards.
- Material and labor involved in replacing plant material shall be provided by the contractor at no additional cost to the City.

1.04 INSPECTIONS

Inspections will be required. The Contractor shall contact the Park Department Representative at least 48 hours (2 working days) in advance of an anticipated inspection. An inspection will be required at each of the steps listed below:

- when trees are spotted for planting, but before planting holes are excavated.
- when planting is completed.

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- At start of plant establishment and maintenance period.
- Final inspection (end of maintenance) prior to release of project. This release will be confirmed in writing by the Park and Recreation Department.

PART 2 - MATERIALS

2.01 GENERAL

All materials shall conform with Section 232 of the Standard Specifications except as modified herein.

2.02 FERTILIZER, SOIL AMENDMENTS AND CONDITIONS

Add the following to Standard Specifications Section 232-1.2.3:

- Planting Tablets: Tightly compressed long-lasting, slow-release fertilizer tablets weighing 25 grams, with a potential acidity of not more than 5 percent by weight and having an analysis of 20-10-5 derived from the sources listed in the following guaranteed analysis:

GUARANTEED ANALYSIS

Total Nitrogen (N)	20%
Derived from urea formaldehyde	
7.5% water soluble nitrogen	
12.5% water insoluble nitrogen	
Available Phosphoric Acid (P <sub>2</sub> O <sub>5</sub> )	10%
Derived from calcium phosphate	
Soluble Potash (K <sub>2</sub> O)	5%
Combined Calcium (Ca)	2.5%
Derived from calcium phosphates	
Combined Sulfur (S)	1.5%
Derived from ferrous and potassium sulfates	
Iron (expressed as elemental Fe)	35%
Derived from ferrous sulfate	

- Commercial fertilizer shall bear the manufacturer's guaranteed statement of analysis and shall meet the following minimum requirements: 14% nitrogen, 7% phosphoric acid, and 5% potash.
- Organic soil amendment

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Type 1 organic soil amendment, nitrogen stabilized, shall be used.

2.03 PLANTS

- Soil Conditions: Add to Standard Specifications, new Section 232-1.2.6: Improvement conditions shall be agricultural grade gypsum, soil sulfur and iron sulfate.

2.04 BACKFILL MATERIAL

- Top soil shall be free of noxious weed seed and shall be of a loam characteristic, fertile and friable.

All plants shall be true to name, and one of each bundle or lot shall be tagged with the name and size of plants in accordance with the standards of practice recommended by the American Association of Nurserymen. The root condition of plants furnished in containers shall be determined by removal of roots from the roots of not less than the plants nor more than 25 of the total number of plants of each species or variety except when container-grown plants are from several different sources; in which case, the roots of not less than two plants of each species or variety from each source shall be checked by the Park Department Representative at his option. The selection of plants to be checked will be made by the Park Representative. All plants numerous unsuitable for planting shall be condemned as samples, and replacements shall be provided at no additional cost. In case the sample plants are found to be defective, the entire lot or lots of plants represented by the defective samples will be rejected.

- When the Standard Specifications Section 232-1.4.2 and 232-1.4.3: All trees supplied by contractor shall be of the specified standard height and diameter set by the American Standards for Nursery Stock. The height of the trees shall be measured from the root crown to the last division of the terminal leader and the diameter shall be measured six (6) inches above the crown roots. The trees shall stand erect without support.

- Bare root stock shall conform to the American Nurseryman's Association standards. Minimum caliper shall be 7/8" and minimum height shall be 12 feet.

- All pole trees shall be of a minimum overall height of 8 to 12 feet as measured from the crown of the rootball to the tips of the branches, or four feet of brown trunk whichever is greater.

- All container grown plants shall be of a minimum 15 gallon container size, with minimum caliper and height in accordance with the American Association of Nurserymen standards for container plants.

2.04 BACKFILL MATERIAL

Add the following to the Standard Specifications Section 232:

- Top soil shall be free of noxious weed seed and shall be of a loam characteristic, fertile and friable.

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- Head shavings shall be leached nitrogen fortified and shall be free of foreign matter.
- Soil used for backfill of planting pits for container plants shall be enriched using the following blend per cubic yard:  
60% site soil 3 lbs. gypsum  
40% head shavings 2 lbs. iron sulphate  
2 lbs. commercial fertilizer
- Bare root stock backfill shall consist of 10% wood shavings and 90% site soil with fertilizer and soil conditioners as specified for container plants.

2.05 HEADERS, STAKES AND TIES

- Add the following to Standard Specifications Section 232-1.5.3:  
(1) True stakes shall be straight-grained lodgepole pine or approved equal. Stakes shall be free from knots, checks, splits, or distortions.  
(2) True ties shall be made from lime casing, 22" long by 1/4" wide, fastened to true stake with two galvanized 5d roofing nails each.
- Add the following new section to Standard Specifications Section 232-1.5(d): Concrete Curing - Concrete shall be 5 sack mix with a minimum slump test of four inches (4"). Provide sufficient concrete forming and stakes (maximum 3" o.c.) to provide continuous line without waving.

PART 3 - EXECUTION

3.01 GENERAL

- All work shall conform with Section 308 of the Standard Specification except as modified herein.

3.02 PLANTING

- Amend the Standard Specifications Section 308-4.5 to coordinate with Section 2.04 herein for specified backfill mix.
- Add the following to the Standard Specification Section 308-4.5:  
(1) Soil surrounding planting pit shall be in a friable condition and moist to a depth of 8".  
(2) Backfill using specified soil mix to within 8" of finish grade. At this depth, place the plant fertilizer tablets Agriform 20-10-5, 22 grams each or equal. A minimum of 3 tablets for bare

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root stock: 5 tablets for 15 gallons, and 8 tablets for a 24" box. Complete backfilling to finish grade.

- Trees shall be planted at such a depth that the crown roots bear the same relative position to finish grade as they did to the soils where they were grown. Backfill after planting shall be compacted carefully into place without injuring the roots of the tree or breaking up the ball of earth surrounding the roots.

3.03 TREE STAKING

Amend the Standard Specifications Section 308-4.6.1 and 308-4.6.2 to read: Stake trees as per Park and Recreation Department standard detail.

3.04 WATERING

Add the following to Standard Specifications Section 308-4.9.5:

- It shall be the Contractor's responsibility to maintain a balanced watering program to ensure proper growth until final acceptance of the work.
- Immediately after planting, apply water to each plant. Apply water in a moderate stream in the planting hole until the material about the roots is completely saturated from the bottom of the hole to the top of the ground.
- Apply water in sufficient quantities and as often as seasonal conditions require to keep the planted areas moist at all times, well below the root system of plants.
- Irrigation:  
(1) Contractor shall properly and complete maintain the irrigation system. A balanced water program shall be maintained to ensure proper germination and growth until final acceptance of the work. Plants which cannot be watered efficiently with the irrigation system shall be watered by means of a hose.  
(2) All controllers are to have each station individually adjusted on a weekly basis. System shall be set considering the application rate each area is capable of receiving. The system shall operate on short intervals, with the cycle repeating at a later time to reduce runoff.

3.05 MAINTENANCE

Amend the Standard Specifications Section 308-6 to read: All trees planted by the contractor under this contract shall be maintained by him for a period of not less than one calendar year from the date of written acceptance for start of maintenance. Start of maintenance date will be confirmed in writing by the Park and Recreation Department.

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- Add the following to Standard Specifications Section 308-6: Start of maintenance criteria:

- Maintenance period shall not start until all elements of the project are completed in accordance with the contract documents. Projects will not be suspended this phase.
- Written acceptance of the City must be obtained prior to the beginning of the maintenance period.
- If the project maintenance fails to continuously meet standards required for start of maintenance, the project will be placed on extended maintenance. The required one year maintenance period will not resume until Contractor has corrected all deficiencies.

3. End of Maintenance:

- On completion of the maintenance period and meeting of the criteria required for the start of maintenance, the City will inspect the project.
- Deficiencies noted during inspection shall extend the maintenance period until all are corrected.
- End of maintenance shall occur only on written acceptance by the City.

- During the maintenance period provide all watering, weeding, fertilizing and cultivation, and spraying necessary to maintain the plants in a healthy growing condition and to keep the planted areas neat, edged, and attractive. All trees shall be pinched pruned as necessary to encourage new growth and to eliminate dead, weak, or diseased growth. Old wilted flowers and dead foliage shall be immediately pinched or cut off. Do no major tree pruning without proper approval of the City.

- After planting and during the maintenance period, in the event that three samples from different systems, apply FE-38 Gelsy or equivalent at manufacturer's recommended rates.
- During the maintenance period, should the appearance of any plant indicate weakness, or should any plant be missing, that plant shall be replaced immediately with a new, healthy plant. At the end of the maintenance period, all plant materials shall be in a healthy, growing condition and spaced as indicated on the plans.

- Damage to planting areas shall be repaired immediately and throughout the maintenance period.
- Any plants that do not show a prompt establishment shall be replanted at 30-day intervals until accepted by the Park Department Representative.

- Depressions caused by vehicles, bicycles, or foot traffic shall be filled and leveled.

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- Exterminate gophers and moles, and repair damage as above.

3.06 DISEASE AND PEST CONTROL

Add the following to Standard Specifications Section 308-6: Throughout the maintenance period, all plants shall be maintained in a disease and pest free condition. A licensed pest control operator shall be retained by the Contractor to recommend and apply all pesticides, herbicides, and fungicides.

3.07 CLEAN UP

Upon completion of the work, the Contractor shall remove all ground surfaces; remove excess materials, rubbish, debris, etc. sweep adjacent streets, curbs, gutters, walkways, and trails; and remove construction equipment from the premises.

END OF SECTION

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02/24/86

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Randolph  
Hlubik  
Associates, Inc.  
Landscape Architecture • Planning  
Old City Hall • Third Floor  
3612 Seventh Street • Riverside, California 92501  
Licenses #1532 (714) 981-1930

MARK	REVISIONS	APPR.	DATE
DESIGNED BY: <i>ED</i>	DRAWN BY: <i>PK</i>	CHECKED BY:	

CITY OF RIVERSIDE PUBLIC WORKS DEPARTMENT	
APPROVED BY	DATE
PRINCIPAL ENGINEER	3/9/91
TRAFFIC DIVISION	1/24/91
CHIEF P.W. ENGINEER	3-13-91
PLANNING	2/28/91

THE LUSK CO. LUSK HIGHLANDER TRACT #22408 INCREMENTS 1, 2 & 3	
HORIZ. SCALE: 1" =	VERT. SCALE: 1" =

ACCOUNT NO. 002705 L-21 R-3073-L SHEET: 214 OF 21 (PC-2926)
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# SPECIFICATIONS

INDEXED 5-3-91